University of Dundee

DOCTOR OF EDUCATION

An investigation into teacher-initiated or DIY Professional Development
The push and pull of teacher Professional Development

Holme, Richard

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An investigation into teacher-initiated or DIY Professional Development: The push and pull of teacher Professional Development

> *Current CPD is too often characterised by mass 'force-feeding' linked to a particular development or cascading of guidance in contexts which do not allow real and sustained engagement on tasks which will lead to identifiable impact on learning. The proposals in this Review are designed to help create a more relevant, sustained and effective approach within a culture of 'pull' from teachers rather than 'push' from outside the classroom. (Donaldson, 2010, p.10)*[1]

University of Dundee Professional Doctorate Submission

Richard Holme

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[1] Quote from Teaching Scotland's Future, the highly influential report into teacher education in Scotland.

Acknowledgements

I would like to thank Liz and Susie for supervising me, with such patience and good humour, through this process. I would also like to thank my family, friends and colleagues for encouraging me, for being part of my wider learning network, and for the proofreading (especially Dian, Peter and Brigid). Last of all I would like to acknowledge all the pupils and students who I have learnt from over the years (formally, informally and unconsciously). They may not have realised it, but they were all playing a part in my development.

Signed declaration

I declare that I am the author of the thesis; that, unless otherwise stated, all references cited have been consulted by me; that the work of which the thesis is a record has been done by me, and that it has not been previously accepted for a higher degree.

Richard Holme

Abstract

Within education formalised teacher professional development (PD) has long been an area of research interest. In contrast informal, teacher-initiated PD has been researched far less. This thesis addresses this issue by investigating the proposed concept of DIY teacher professional development.

This study employs a bricolage methodology involving pragmatic decision making to select any method or tool at the disposal of the researcher. The theoretical perspective, used as a lens for analysis, was influenced by critical pedagogists. Data collection was via a Delphi study (administered via electronic means) in which the initial round utilised a qualitative open-ended questionnaire, analysed thematically to produce statements. The second round involved a quantitative questionnaire to establish expert consensus on these statements. Data were analysed through descriptive statistics; alongside this a personal reflexive journal was compiled to track the researcher's own developmental journey.

The consensus from the expert panellists was that teacher-initiated PD (the term preferred to DIY PD by participants) *could* be used as a separate classification of professional development. Key activities included: professional conversations and learning communities, which could expand to include networks. Key factors relating specifically to teachers included: relevancy to the participant; motivation, trust, agency and ownership, with collaboration as a facilitating factor. A further notable delivery factor included location of the PD delivery. Finally, given the complexity of this subject, the study also identifies emergent themes including: teacher identity, implicit learning, accountability and transparency, alternate discourse, and power, hierarchy and control.

The thesis makes a contribution to the education community on three levels. Methodologically it shows how a Delphi study may be used within the educational context, as currently this is an under-utilised approach within education. Secondly the study informs the wider education community, including: teachers, administrators, policy makers, and teacher educators, on what PD *may* involve and might develop over coming years. The final contribution is a critique of the way the author has developed professionally which will inform their ongoing professional, and personal, development as an educator and researcher.

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Acronyms used in this thesis

ACT	Advanced Charter Teachers
CET	Cognitive Evaluation Theory
CfE	Curriculum for Excellence
CLPL	Career-Long Professional Learning
CPD	Continuing Professional Development
CPDL	Continuing Professional Development and Learning
CT	Chartered Teacher
DIY	Do-It-Yourself
DK	Don't know
EdD	Doctorate of Education
EIS	Educational Institute of Scotland
GTCS	General Teaching Council for Scotland
INSET	In-Service Training
ITE	Initial Teacher Education
MEd	Master of Education
PD	Professional Development
PFI	Private Finance Initiative
PL	Professional Learning
PLC	Professional Learning Community
PLFind	Professional Learning Find
PLN	Professional Learning Network
PPP	Public Private Partnership
RIC	Regional Improvement Collaboratives
SCDE	Scottish Council of Deans of Education
SCEL	Scottish College of Educational Leadership
SDT	Self-Determination Theory
SNSA	Scottish National Standardised Assessment
STEC	Scottish Teacher Education Committee
TDA	Teacher Development Agency
TLC	Teacher Learning Community
TLC	Teacher Learning Communities
UCET	Universities Council for the Education of Teachers

Chapter 1 - Introduction

Overall aim of professional doctorate project

This professional doctorate project focuses on the general topic of teacher professional development (PD).[2] The empirical research elements investigate a proposed concept of Do-It-Yourself (DIY) PD and addresses the research question:

> ***Research question 1: Is the proposed concept of DIY PD a valid concept and a discrete category of teacher PD?***

Following on from this, making the assumption there is merit in doing so, the subsequent investigation addresses the question:

> ***Research question 2: What are the key characteristics and features of DIY PD activity?***

Sub-questions used to investigate RQ2 explore the characteristics and features, as well as factors and activities, were:

> *SQ1: What are the key characteristics and features of DIY PD activity?*
>
> *SQ2: What are the activities and delivery factors associated with DIY PD?*
>
> *SQ3: What additional emergent themes (resulting from the findings) may inform future investigation and understanding of DIY PD?*
>
> *SQ4: What are the personal implications (for me as a researcher) of engaging in this research, utilising DIY PD?*

The introductory section of the thesis which follows will provide details of how the thesis document is organised, explain the role or the reflexive diary, and give a brief summary of the entire thesis.

[2] As a wide range of terms including: professional development (PD), professional learning (PL) and continuing professional development (CPD), are found in literature the general term professional development will be utilised unless quoting the original published term.

Overview and organisation of thesis

This thesis represents the work completed for a Professional Doctorate in Education (EdD). The level of study and academic requirement are the same as with a traditional route PhD but the EdD is designed to integrate research and study with the professional activities of the student. Specifically the programme gives the student an opportunity to enhance their own, and others', knowledge and apply this to their professional field or discipline (McCallin and Nayar, 2012; University of Dundee, 2017). On a practical level the reader should note that where appropriate, for example if I am referring to my own development or involvement in the research process, writing in this thesis will revert to the first person.

As a teacher educator, researching teacher PD, the professional doctorate route was deemed to be highly suitable. However, the complex nature of the topic means that a linear style document is not entirely suited to reporting the results and output of this study. The interconnected, and overlapping, approach adopted during the development of this document means that many sections feed in to each other. Therefore, to make this clearer the process is presented graphically below (see Figure 1).

The Professional Doctorate framework at the University of Dundee (University of Dundee, 2017) is based on a modular approach. The first module (out of 5) was awarded via Recognition of Prior Learning (Appendix 1) as a Masters-level dissertation and Research Methods module had previously been completed. The second module was then passed on completion of a literature review which was presented to an academic Upgrade Review Committee. The initial literature review, which acted as the background to the research project, has been updated and is presented as part of the entire research project (see Chapter 2). The research element of the project, comprising a multi-stage Delphi project and analysis of personal reflexive diary, contributes to the remaining three modules of the programme and is documented in this thesis.

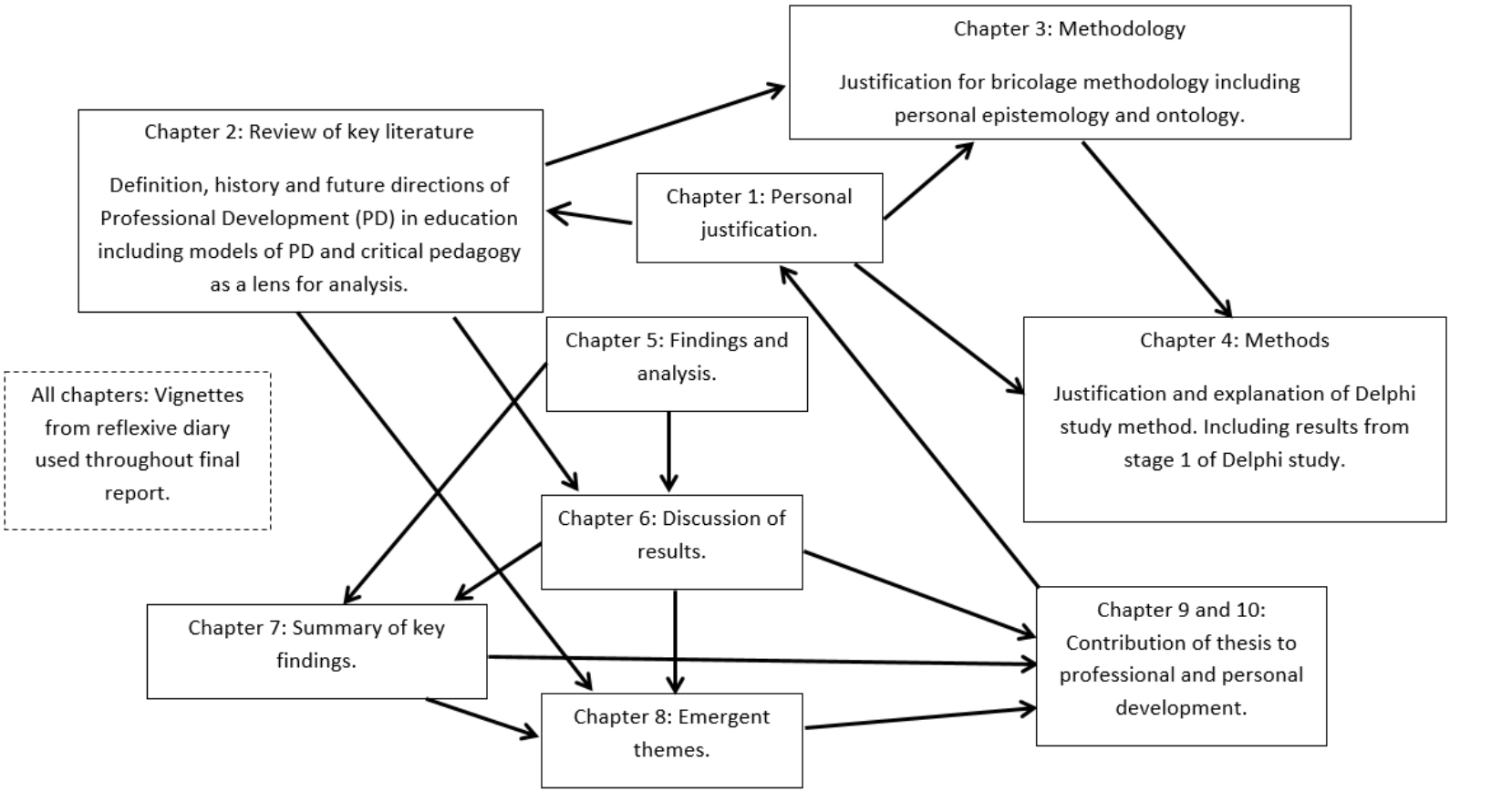


Figure 1: Overview of the professional doctorate submission document

Role of reflexive diary

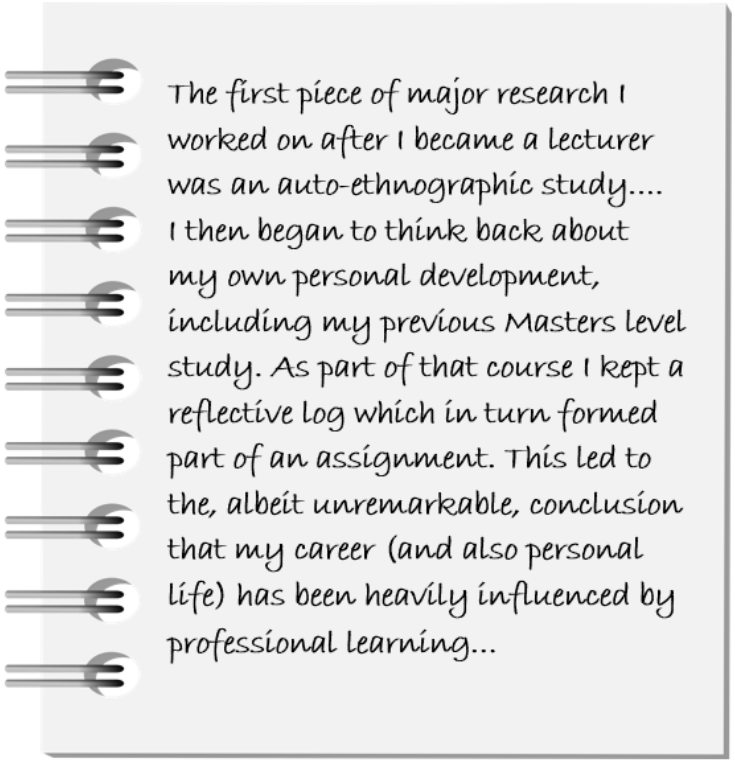
The difference between reflective practice (Schon, 1984) and reflexive practice is the focus on self-reference and application of reflection *into* practice (Ashmore, 1989). I have interpreted this as moving beyond consideration of the practical things I do, to examining and readjusting my beliefs through questioning my personal and professional motivations.

Although I am heavily influenced by positivist and realist traditions (Cohen et al., 2013), having previously studied subjects within natural science, I also understand professional development and learning are highly personal subjects; therefore the personal reference element must be considered. To try and remain truly objective (in the natural science sense), when my own experiences influence the research process, is not possible and may create an unnatural environment for social science research. Given the qualitative and iterative nature of the current study the issue of rigour is one that has been in constant consideration and is referenced throughout this thesis. The reflexive diary (see Appendix 2 for a sample)[3] and my own personal blog (Holme, 2018) have allowed me to contrast the writing in these, with the analysis in this submission. This use of a reflexive journal addresses some key characteristics of rigour, namely internal validity, reliability and objectivity, when conducting qualitative inquiry (Morse, 2015) and this will be explored in greater detail in the methods and limitations sections. Hence I have opted to factor in any evidence, including subjective reflections and personal narratives, and utilise these whilst ensuring I acknowledge the potential for unreliability (including my own researcher bias). In line with this approach I have opted to illustrate this report with vignettes, taken from the personal reflexive autobiography. The autobiography was developed during the research process and will be used, as a form of between-method triangulation (Wellington, 2015). It will also provide the basis for my analysis of personal development (Chapter 10).

The first example vignette is available below and illustrates the importance, and value to me, of this individual narrative voice when considering the wider subject of professional development. In certain places in this document the relevance of

[3] As this is nearly 25,000 words long I have opted to leave this out but would be happy to share the entire document with anyone wishing to read it.

these will be explicitly explained or explored although elsewhere there may be less explanation as in some cases I am still reflecting on these issues.[4]



The vignettes serve multiple purposes including informing the research focus, the methodology and also the final analysis and discussion. This is appropriate as the key theorists selected as a lens for the later analysis (Paulo Freire, bell hooks and Ivan Illich) focus on critical pedagogy, engaged pedagogy and self-actualisation. Specifically bell hooks has argued that personal stories have helped her make sense of the world (Generett, 2009) and I have utilised this concept myself as both researcher and learner. Having analysed and summarised hooks' writings, Generett (a specialist in the field of teacher professional development) proposes that:

> *Teacher educators must be willing to explore patterns, the connections and disconnections of their lives, and, like any good researcher, turn it into data and analyze it. (Generett, 2009, p.87)*

Therefore, in summary the process of engaging with this doctoral research project has enabled me to not only research, and learn more about teacher professional development, but also deepen and broaden my understanding of my own

[4] They are also reproduced, as written at the time, with any grammatical or spelling errors retained to demonstrate authenticity of entries.

professional development and learning through critical self-reflection and self-analysis.

Personal justification for research focus

To provide the context to this project I will first consider the reasons for selecting this area as a focus. Fairly early in my academic career a visiting Professor, Shirley Steinberg,[5] delivered a seminar and encouraged any potential researchers to begin with their 'personal story' (Steinberg, 2014). The aim, it was argued, should be to clearly understand 'the what', 'the how' and 'the why' of their personal motivation to research; this chapter details this process.

Thinking about my own relationship with education I now realise how I value the experience and process of learning far more than the end product. However, this has not always been the case, and must admit that when I was a primary teacher I was often tempted to 'teach to the test', especially in the high stakes arena of school inspections and standardised testing regimes. This may reflect my own personality and willingness to challenge ideas in particular when these seem to represent a cultural arbitrary (including political ideology), which doesn't seem quite right to me. But I've also always enjoyed learning new things, often in a self-directed manner, sometimes 'incidentally' or 'accidentally' (Rogers, 2014). I also love doing new things, and look for opportunities to find out more, to the point that I am distracted (or that is how my own teachers at school may have framed it!) by something I considered more interesting. I now recognise this as an example of the novelty effect (Houston-Price and Nakai, 2004), which I discuss later, but may also be connected to issues of motivation, agency (Biesta et al., 2015), and trust, including self-trust (Fink, 2016; Tschannen-Moran, 2014).

When I began working as a lecturer (in 2012), having moved from being a class teacher in a primary school, I was given the opportunity to work on a Professional Learning (PL) session for teachers, organised with the Dundee Science Centre. The first session involved seven people, four of whom (including myself) were delivering the session. This was a lot of resource for only three attendees. It left me thinking*: 'why was there such a poor turnout for a free CPD session?'* I felt a

[5] I later became aware that Shirley was the partner of Joe Kincheloe (who is referenced later, when introducing the bricolage methodology) and both were friends of Peter McLaren – all important critical pedagogists whose work has informed this thesis. The way these key people and ideas linked up and connected was surprising, but also reassuring.

mixture of annoyance and resentment of all the teachers who had missed this opportunity.

As I continued in my role as an early-career lecturer I set up CPD (continuing professional development) opportunities for our students. I launched a film club and early levels of engagement were promising. However, by the second year of this initiative I observed no education students were in attendance. There were other people attending, including History and English students, international students on exchange programmes, and even medical school staff. But no future teachers were coming to watch and debate films about education, which had been specifically organised with them in mind.[6] I discussed these observations with colleagues and several explanations were put forward; the timing and location might have been wrong,[7] maybe the films I had selected were not appealing, or our students did not value, or see the relevance of, learning and professional development. I found this final suggestion depressing. My analysis was that I was working with future teachers who seemingly did not recognise or value professional development. I considered stopping the initiative but as I was enjoying the sessions, and learning from the other attendees, I continued with them for the rest of the year. This was a 'critical incident' (Tripp, 1994) that directly informed the focus of this doctoral research project. It also inspired me to examine my own personal development. I now realise that my professional development goes beyond the practical aspects, and encompasses attitudinal, intellectual and motivational development, as represented in the model of PD proposed by Evans (2014). Through completion of this doctoral project I now recognise much of my own learning takes place in the lower section of the metaphorical iceberg (Livingstone, 2002; Rogers, 2014), where formal learning only accounts for around 10% above the waterline.

When not at work I look for opportunities to learn more about the world and find ways in which this can enhance my teaching. If I go on a walk, visit a museum or watch certain TV programmes I always find myself wanting to know more and

[6] The aim had been to provide a stimulus for reflection on key educational issues. Films included: Etre et Avoir, Stand and Deliver, Temple Grandin and The Great Debaters. I have since recognised that I use films, and in particular narrative, to help me learn and understand the world.

[7] At the time I rejected these hygiene factors as unimportant, but am now realising that although this may not be that important to me, it is for many others. This has enhanced my understanding that not I need to see issues not just from my own personal perspective.

thinking how this could be used in the classroom or lecture theatre. In other words I think that education, and learning, permeates all I do. This intersection between learning in the general sense, and self-education sits with what could be termed either DIY, or potentially more suitably grassroots PD activity. This is something that I have considered towards the end to this research project but looking back over my life is something I have always recognised and often engaged with.

Considering my individual approach to professional development I have always learnt by observing and making connections. This interest in a range of areas, and a desire to make links, has drawn me to the bricolage methodology which I have adopted in this project. I also believe my interest in CPD may result from this desire to know and understand why something is the way it is. As explained earlier I also have a desire to challenge and question. As I have progressed through this research project, and developed as a learner and a teacher this has included questioning my own views and assumptions. However, an area where this was most problematic was the overtly political nature of education. I have always described myself as broadly (sometimes extremely!) socialist with liberal tendencies, and heavily influenced by ecological perspectives. During my Masters study I became familiar with theorist such as Freire and hooks, and during Doctoral research I was introduced to Illich. All of these have a big influence on how I view education and wider society. With this in mind, once factors like power and hierarchy were introduced to the current project I began questioning my objectivity as a researcher. Somewhat ironically this resulted in me being less confident in my views resulting in me playing these down.[8]

In summary, examining all around me and interacting with others influences how I learn and I believe this has similarities to research methods such as narrative and autoethnographic approaches (Chang, 2016). I have loosely applied this during the current study by compiling a personal reflexive diary (extracts in Appendix 2) which documents my experiences of engaging with the wider research process. Therefore, this thesis draws on these themes and investigates informal approaches to teachers' professional development, where the initiative to engage rests with themselves.

[8] This was something discussed during my Viva. The examiners encouraged me not to retreat from these ideas but embrace and 'own' them.

Chapter 2 – Literature review

Literature review approach

As part of the Professional Doctorate in Education (EdD) process a literature review and action plan, were submitted for upgrade review. The literature review has been iteratively updated and developed and provides the basis for this chapter. The personal justification outlined in the previous section highlights the general direction for this wider professional doctorate study whereas the literature review informs the development of the research questions (Ridley, 2008).

The literature review started with identification of key search terms (Fink, 2010) with wildcard and Boolean operator symbols employed to overcome issues of different terminology. For example, one search criteria was 'cont* prof* dev*' which meant a variety of suitable terms (e.g. continuous, continuing, continued) would be returned (Ridley, 2008). Further to this a date range searching technique was employed whereby the most recent publications were identified before the search parameters were widened. In some cases specific date ranges were required to provide historical context on professional development. A disadvantage of this initial systematic approach was that searching for terms, such as 'education', meant some sources were overlooked, in particular those in associate fields.

An unavoidable challenge with the literature search process is that theory and research can be updated, or becomes outdated. During the execution of the current study this occurred with the spectrum of PD formats suggested by Kennedy (2005) and recently adjusted (Kennedy, 2014). Another example of this was that research and literature in relation to informal professional development or learning (Kyndt et al., 2016; Trust et al., 2016)[9], social media platforms such as Twitter (Cunningham, 2017; Jefferis, 2016) and activities such as teacher-initiated events (Carpenter, 2016b; Egan-Smith and Finch, 2018) were published during the completion of the research project. In the final stages of the write-up other highly relevant general texts were published (Burstow, 2018; Weston and Clay, 2018). Some terms, which may have formed part of a wider search, only

[9] The source from Kyndt et al. (2016), focusing on Teacher's Everyday Professional Development, was published in the year after the upgrade review was completed and had similarities to the current doctoral thesis. This gave confidence that the current topic was both relevant, up to date, and sufficiently novel.

came to light in the very final stages of redrafting the final report, including self-directed learning (Beach, 2017), and the theory of heutagogy (Hase and Kenyon, 2013). In addition works were suggested by supervisors, from other fields (e.g. Cruess and Cruess, 2017), even during the final weeks of redrafting. This justifies the iterative approach, but also highlights that any literature review is likely to be out of date by the time it is published.

As the initial structured search process developed it became apparent that searching for specific terms, and within limited date ranges, was problematic and limited the results. In addition the nature of the topic meant many important sources of information (including academic blogs or web-based sources and grey literature) were not identified through the usual means of academic databases. Furthermore the relevance of social media to the current study meant this was an additional avenue to be explored. These issues were discussed with supervisors and the merits of various sources explored. Ultimately, a semi-systematic literature search, also known as a mixed research synthesis approach (Sandelowski, 2012), was adopted supplemented by extensive snowballing (Ridley, 2008) where sources were followed up for potential significance (Wellington, 2000). As specific relevant journal titles were identified (e.g. Professional Development in Education, which is the journal of the International Professional Development Association) these were used on a regular basis to monitor research development in this area. In addition social media was utilised (in particular Twitter), from accounts such as BERA or The Association for Teacher Education in Europe and influential educators, to identify additional sources. Lastly some key documentation was identified through expert recommendations during round 1 of the Delphi study and these were followed up (e.g. Cordingley et al., 2015).

The result was that the literature review process progressed in an iterative, and at times informal, manner and with professional judgment used to select sources. This should be acknowledged as a potential limitation as the selection of sources included a subjective element. However, this process also fits with the wider bricolage methodology (Strauss, 1962), which is justified in Chapter 3.

The first issue that arose was that professional development of teachers had been a point for debate for a considerable length of time and of academic interest

and discussion for more than fifty years (Burstow, 2018). Since the 1960s, the teacher as a learner, or as an inquirer, has received a considerable degree of attention (Joyce et al., 2010). In the intervening years much has been written about the formal development of teachers with a particular focus on how the teacher plays a role in this process. Before this issue is considered in greater depth the terminology relating to professional development will be clarified.

Terminology and definitions

Importance of defining Professional Development

Within academic literature and the education profession there is disagreement, even confusion, around terms relating to professional development. Weston and Clay (2018) draw attention to a range of terms, used to describe teacher learning and development, and suggest there have been some attempts to clarify meaning. This perspective is not new, with Neil and Morgan (2003, p.1) stating that 'The term 'continuing professional development' (CPD) may not be interpreted in the same way by different key players in the educational world.' A European Union report into CPD in education (Scheerens et al., 2010, p.19) also suggested that this term should include all systematic activities that prepare teachers for their job, including initial teacher education, and further blurring the boundaries of where teacher PD should begin and end. Regardless of this the reason for clarifying and defining PD is so that there is a shared understanding of the construct and an opportunity to identify actual processes of teacher development (Evans, 2002). The variety of terms utilised within literature include: professional development (PD) (e.g. Evans, 2016), continuing professional development (CPD) (e.g. Murphy and de Paor, 2017), professional learning (PL) (e.g. Boylan et al., 2017) and career-long professional learning (CLPL) (GTCS, 2013). Considering the related term, learning, classifications include formal, non-formal and informal (Rogers, 2014).

The issue of terminology is also problematic for practitioners; for example during the academic year 2001-02 a large scale (n= 854) study was carried out in England and included primary and secondary practitioners (Boyle et al., 2004) which attempted to clarify the national picture in relation to CPD activity. The multi-stage project investigated the types and forms of development activity and the perceived level of quality. Despite a carefully planned methodology the authors acknowledged confusion amongst respondents as to what was meant by

different forms of CPD (for example coaching). More recently, in Scotland, teachers have acknowledged they value a broader definition of PD (or CLPL) (Black et al., 2016). Therefore, if education practitioners' ability to classify professional development *activity* is problematic then it clearly follows that establishing a shared understanding is an essential starting point.

Defining Professional Development

Some authors and researchers attempt to provide simple definitions of professional development. For example Clement and Vandenberghe (2000) propose:

> *The succession of different kinds of learning experiences is an adequate description of professional development. (Clement and Vandenberghe, 2000, p.87)*

Developing this further, one of the most commonly adopted, and regularly cited, working definitions suggests:

> *Professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct benefit to the individual, group or school and which contribute, through these, to the quality of education in the classroom. (Day, 1999, p.4)*

Attempting to simplify this issue further Day and Sachs (2004) state that [C]PD can be used to describe any activity, undertaken by teachers during their career, that enhances their work. Many other authors have also drawn connections between PD or CPD and being a professional, professionalism and professionality. For example, Evans (2002) suggests that 'teacher development is a process, leading to improvement in knowledge, skills and practice whereby a 'teachers' professionality and/or professionalism may be considered to be enhanced' (Evans, 2002, p.131). Evans (2014) goes on to develop a componential model (see Figure 5) that clearly categorises three distinct elements to teacher professional development: behavioural, attitudinal and motivational. Sachs (2016), whilst considering Evans' interpretation, summarises the topic of teacher professionalism as contested and argues that it is time to move on from an 'industrial' approach to professional learning, raising the issue of PD as a 'product'.

As stated earlier, in Scotland the General Teaching Council for Scotland (GTCS) use the term Career-Long Professional Learning (CLPL) (GTCS, 2014b) whereas in the UK the term CPD is better known, while internationally PD is widely used (O'Brien and Jones, 2014; Weston and Clay, 2018). Clearly there is much debate and disagreement over what constitutes PD, CPD, PL or the preferred GTCS term of CLPL. Despite a move toward PL within literature the most commonly occurring term is simply Professional Development (PD). As a result, within this study, the term Professional Development will be adopted, as a default 'catch all' term, unless the original source uses an alternative such as CPD or PL.

Adopted definition of Professional Development for this study

The rest of this section will lead toward a working definition for the term professional development. Due to the wide range of definitions provided in academic and professional literature and based on the fact that the current study was executed predominantly in the UK, two key definitions have been identified as a start point.

Evans (2014) proposes:

> *Professional development is the process whereby people's professionalism may be considered to be enhanced, with a degree of permanence that exceeds transitoriness. (Evans, 2014, p.189)*

Evans makes a further distinction by suggesting that behavioural, or practical elements or factors that influence a teacher's practice should be covered by the term professional *development* whereas the attitudinal and intellectual elements or factors should be covered by the term professional *learning*. However it could be argued, given the confusion over terminology, that this distinction further complicates the situation.

An additional practically focused definition is provided by the GTCS:

> *Professional learning is what teachers engage in to stimulate their thinking and professional knowledge and to ensure that their practice is critically informed and up-to-date. (GTCS, 2014b, no page)*

Drawing these two definitions together an initial working definition[10] for teacher PD, was adopted for this study, namely:

> *The activities and process by which teacher's professionalism is permanently enhanced, particularly by critically informed thinking.*

This definition introduces critically informed thinking which has implications for those participating in PD activity. Having discussed how teacher PD is defined the next section will examine models that have been used to explain the content, delivery and activities associated with teacher professional development.

Models of Professional Development

The need for models and criticism

For those interested in the design, research or evaluation of professional development, models of the learning process can be utilised (Boylan et al., 2017). Fraser et al. (2007) suggest that the use of models can provide a 'lens' through which to analyse PD activity. One of the challenges for anyone considering theoretical models of PD is that these are frequently developed alongside an existing professional development programme or project (e.g. Buxton et al., 2017; Dunn et al., 2017; McMurray et al., 2016) reducing the potential for wider applicability. There is also the potential for researchers to develop models as a by-product of research to validate their own study and to add academic respectability. Many new examples are published on a regular basis (e.g. Turner et al., 2017) but only a select few are utilised more widely in research and literature such as Clarke and Hollingsworth (2002) which Evans (2018) describes as 'landmark'. A further criticism of models is that the wide range of models and perspectives could be adding to the complexity in understanding PD for practitioner teachers. Paradoxically the use of models to clarify understanding may be having the opposite effect.

Amongst the models for PD proposed over the thirty years one method of classification is as either procedural or processual (i.e. the way in which it is applied) or conceptual (i.e. how it impacts on the beneficiary) in nature (Evans, 2014). For example, the 'Postman Pat' (Boyd, 2005) or cascade models focus

[10] This working definition evolved during this doctoral research project and the reader is encouraged to engage with this and consider their own understanding of the term(s) relating to teacher professional development.

mainly on the process of delivery (Craft, 2000). These rely on someone, usually a teacher, being trained and then passing on the skills or knowledge to other teachers. This model was illustrated during the 2008 TV series where TV chef Jamie Oliver attempted to train people to pass on or 'pay forward' cooking skills amongst the residents of Rotherham (Renton, 2008). Criticisms of such approaches are that finer points are diluted or distorted and quality is impacted (Turner et al., 2017), which is exactly what Jamie Oliver discovered during his social experiment. Despite this, research has suggested that some PD activity has the potential for positive effects to 'spill over' and allow for what has been termed 'scaling' (Weißenrieder et al., 2015) which means that cascade models may have some benefit.

An important consideration with general models of PD is that they make it possible to 'widen the knowledge base, certainly; but they do not necessarily *deepen* it' (Evans, 2014, p.182). Evans argues that although such models are useful for practitioners they do not constitute formal theory, in the truest sense. There are other critics of this lack of 'deep' understanding of professional development or teacher learning and during a review of literature (Opfer and Pedder, 2011), which followed on from a systematic review conducted for the Teacher Development Agency (TDA) in England, the authors suggested that the consideration of teacher development and learning too often relies on simplistic ideas and conceptualisations. The ultimate conclusion being:

> *…the majority of writings on the topic continue to focus on specific activities, processes, or programs in isolation from the complex teaching and learning environments in which teachers live. (Opfer and Pedder, 2011, p.377)*

Burstow (2018), drawing on forty years of personal experience of teacher development, proposes three continua covering: the needs or benefits of PD (i.e. individual or organisation), the source or origin (i.e. bottom-up or top-down), and the aspect or status (i.e. craft or profession). Although this appears to cover all essential themes, in a comprehensible manner, the linear nature may not represent some of the more nuanced aspects of PD, such as within the attitudinal component of the Evans model (2014). This draws further attention to the preference for viewing PD in a practical way or by simply focusing on the process-product approach. In the conclusion to their analysis Opfer and Pedder (2011)

identified complex interrelationships between specific elements, within what they term three subsystems, namely the teacher, the school, and crucially, the learning activity undertaken by the teacher. There is little doubt that teaching and learning involve complex, interlinked relationships and factors; however the way in which teacher PD is analysed or approached can fail to reflect this complexity (Putnam and Borko, 2000). Evans appears to agree as teacher engagement element - on an internal or micro-motivational level - is often overlooked (Evans, 2014).

Despite these general criticisms of over simplification within models of PD more sophisticated models exist, providing a useful theoretical context for research. Several examples of these will be considered in the next section.

Selected examples of models of PD

Some researchers have attempted to blend the procedural and processual ideas with conceptual ones. The influential[11] composite framework [model], proposed by Fraser et al. (2007), blends three models of professional development and CPD. The first model included is Bell and Gilbert's Aspects of Professional Learning Model (1996) which focuses heavily on the interconnected relationship between factors relating to social, personal and professional development (Figure 2, see next page). Within this model the social development aspect centres on relationships with other teachers and students; personal development is concerned with how the teacher feels about the change process and education in general; and professional development focuses on teachers' evolving understanding of concepts and beliefs relating to education.

The second analytical model (Kennedy, 2005) within Fraser et al.'s composite framework contends that, assuming we accept professional development should include attitudinal change (Evans, 2002), we must consider *how* such change is enabled. As a result teacher development can fall into one of three categories: transmissive, transitional or transformative (Kennedy, 2005). The transmissive approach is more closely aligned with developing a compliant, rather than autonomous, practitioner and has implications for a key theme introduced and explored later, namely teacher agency.

[11] Over 5400 article views, and 67 CrossRef citations as of June 2018.

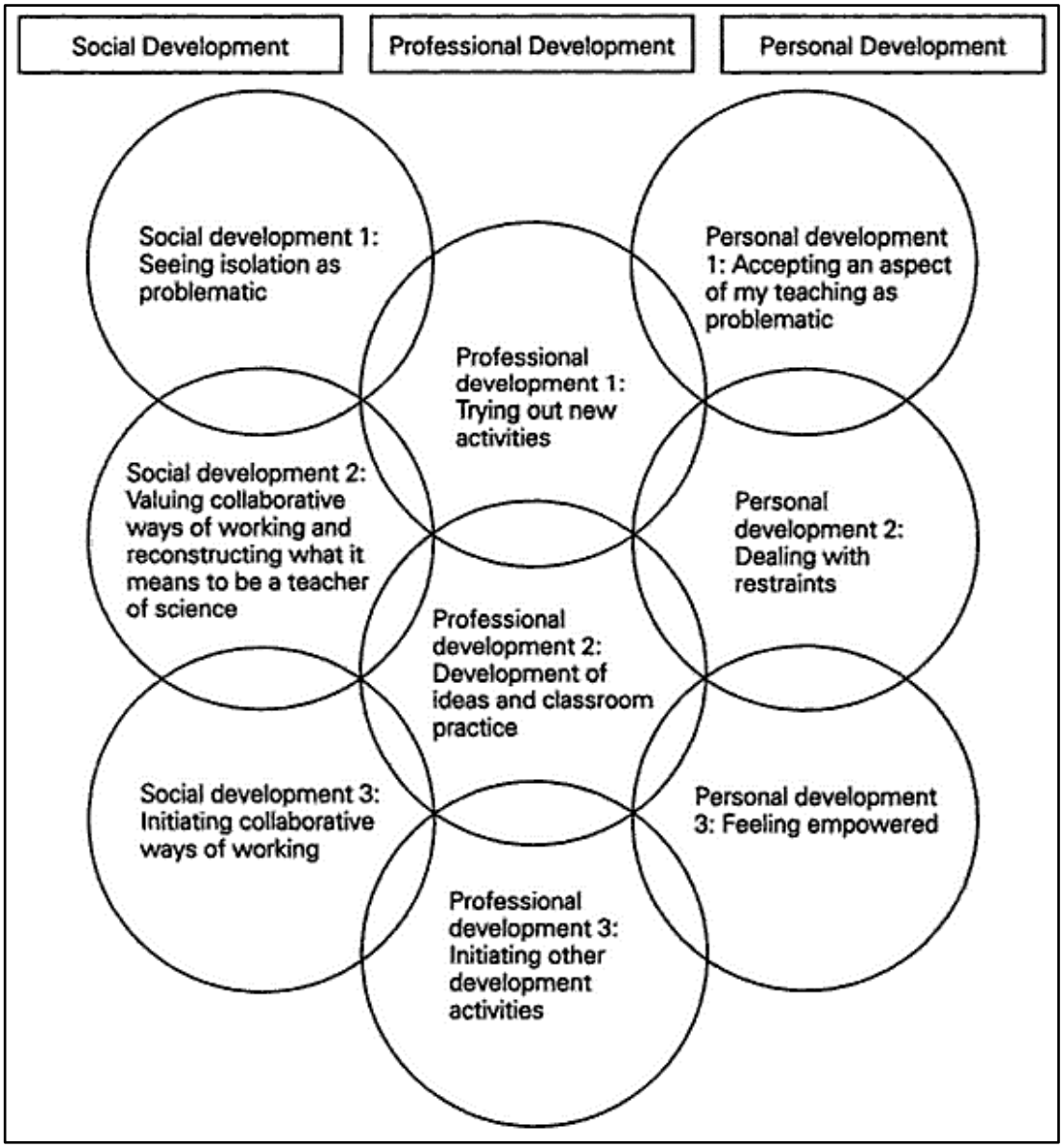


Figure 2: A model of teacher development (from Bell and Gilbert, 1996, p.16)

In contrast the transformative approach to professional learning should engender critical analytical consideration of knowledge, concepts and theory and assimilate these into everyday professional contexts. The transitional approach provides a link between the two opposing ends of this continuum (Fraser et al., 2007). Kennedy (2014) has since revisited this model (Figure 3) and updated elements, including terminology so that the transitional category has been renamed malleable. The reason for this is that the term transformative has negative connotations and may be misunderstood.[12] Another key change was the reclassification of award-bearing models of CPD from the transmissive category

[12] This issue of terminology within teacher PD is problematic, and is discussed in light of the current research expert survey results later.

into the malleable category to reflect the movement from formalised or prescribed CPD courses toward teacher-initiated Masters-level learning where participants opt in. A further justification is that this change reflects factors such as 'who is paying and what the motivation is for study' and how 'master's-level award-bearing CPD can be liberating, empowering and a contributory factor to enhancing teacher agency' (Kennedy, 2014, p.693). The final adjustment includes the addition of teacher agency as a factor in supporting teachers' increased capacity for autonomy as they move through the stages in the model. This element links to the autonomy element, alongside perceived competence, within the motivational theory of Self-Determination Theory and Cognitive Evaluation Theory (CET) (Deci et al., 2001) which will be introduced and considered later when the theme of motivation is discussed.

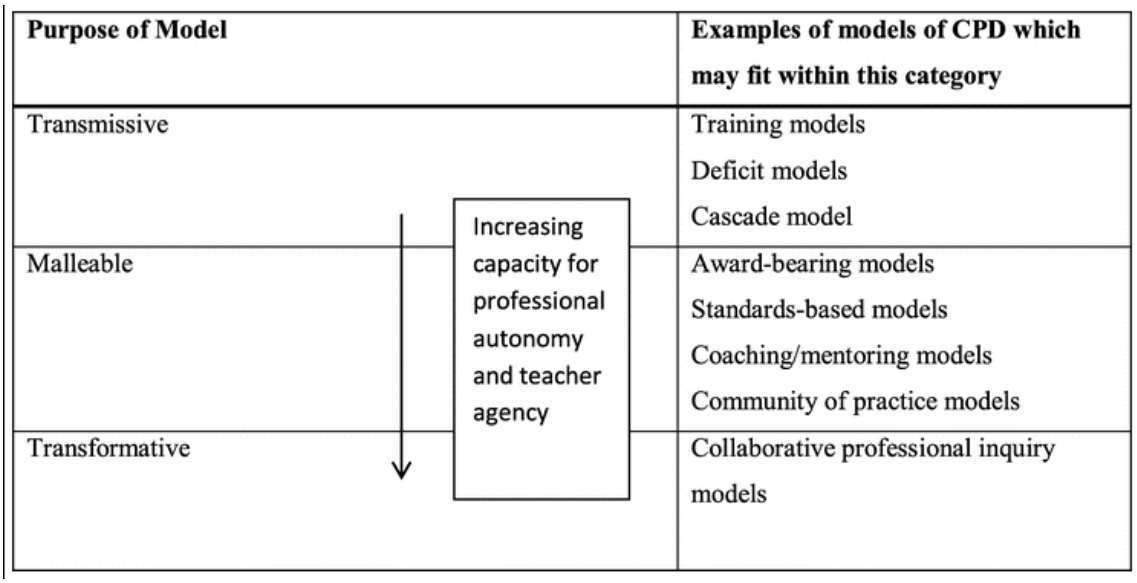


Figure 3: Spectrum of CPD models (from Kennedy, 2014, p.693)

The final model considered by Fraser et al. (2007) is a two dimensional quadrant model (Figure 4) of teacher learning (McKinney et al., 2005). This model was developed to categorise teacher development opportunities based on the degree to which these were planned and therefore were formalised. It has some similarities with the continua more recently proposed by Burstow (2018) but this model crucially recognises that teacher PD may occur beyond the formalised locations and structures controlled by policy makers and educational administrators. This introduces the idea of informal or teacher-initiated PD but also raises a potential new theme, trust, which will be considered later in this project.

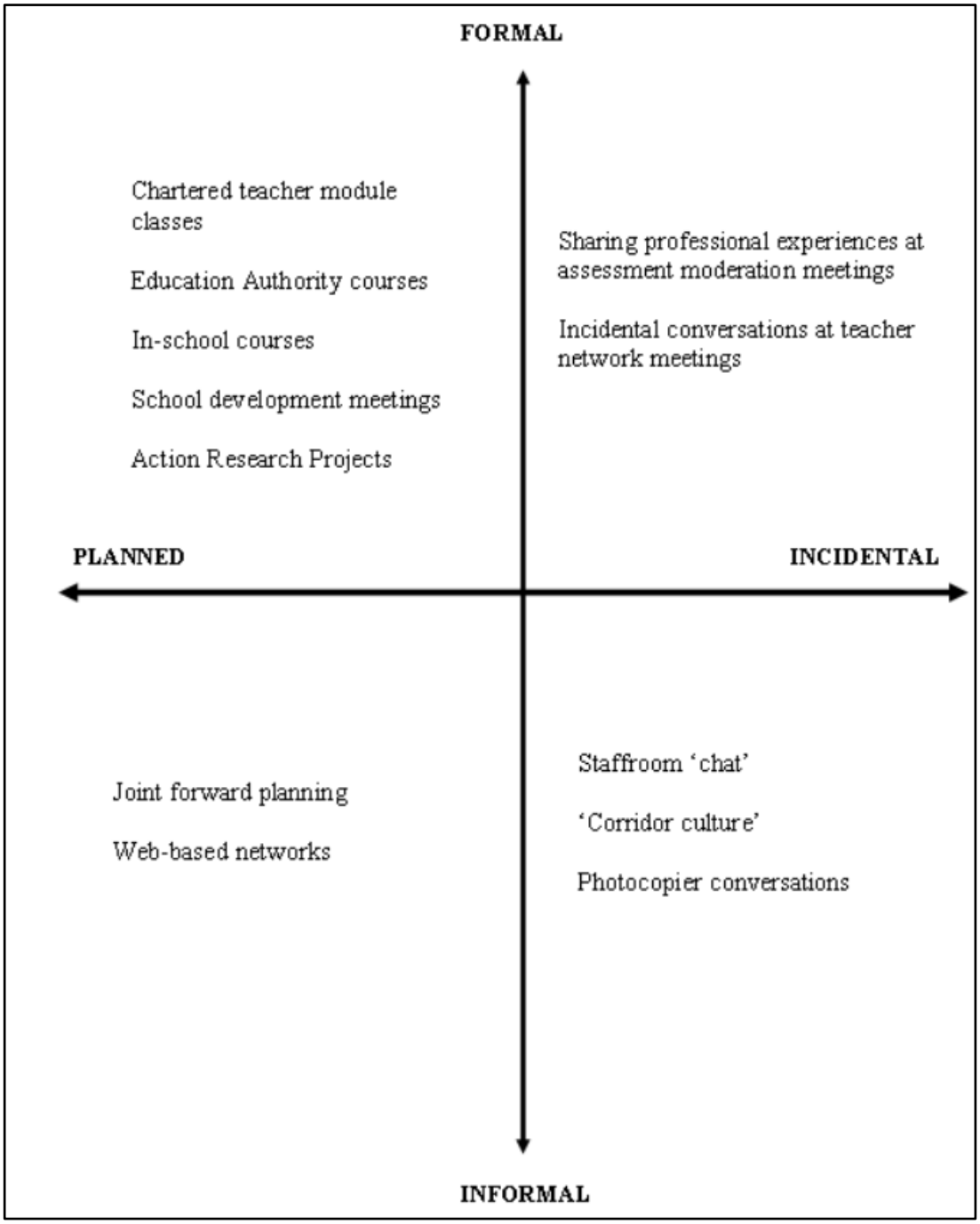


Figure 4: Reid's quadrants of teacher learning (from McKinney et al., 2005)

In considering these three models Fraser et al. (2007) suggest how they may be used as 'lenses' for examining PD. Informed by these models they propose three key components: the 'sphere of action' (concentrating practically on how and where professional learning transpires), the 'domain' or locus of influence (where professional learning impacts on an individual), and the level of opportunity for developing professional autonomy and transformative practice (Fraser et al., 2007, p.160).

The three key elements of the Fraser et al. composite framework (Fraser et al., 2007) have similarities to another influential model; Evans' (2014) componential model of teacher development. The 'sphere of action' and 'domain' of influence elements align to the behavioural component (and specifically processual or procedural elements) in the Evans' model. The opportunity for developing professional autonomy may be achieved through practical *or* procedural means, represented by the behavioural components of the Evans model, *but* will also rely on the attitudinal and intellectual components. This suggests that the added sophistication of the Evans model makes it a useful lens to better understand less formalised or practical examples of teacher PD. An additional benefit of the Evans' model (Figure 5) is that it takes a paradigmatically different approach to other models, in particular it requires teachers to recognise the need for improving practice through understanding the multi-dimensional nature of PD (Boylan et al., 2017).

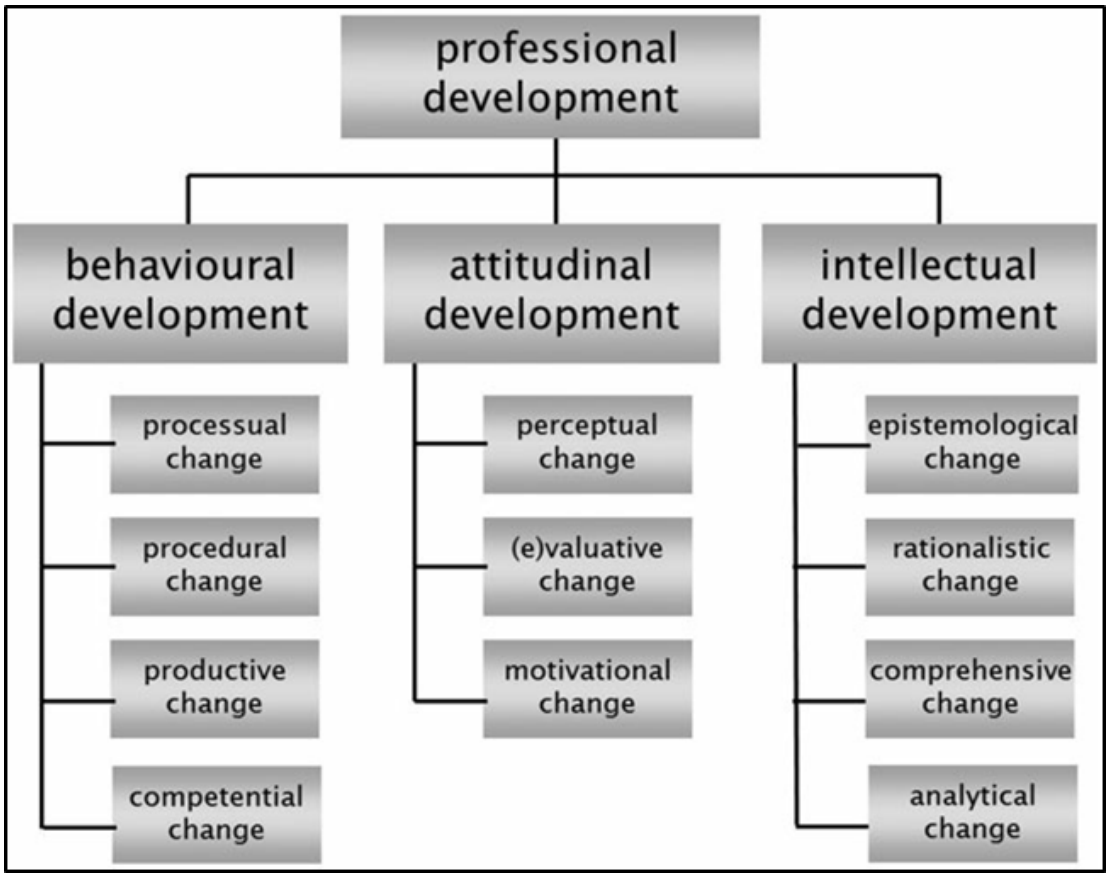


Figure 5: The componential structure of professional development (from Evans, 2014, p.191)

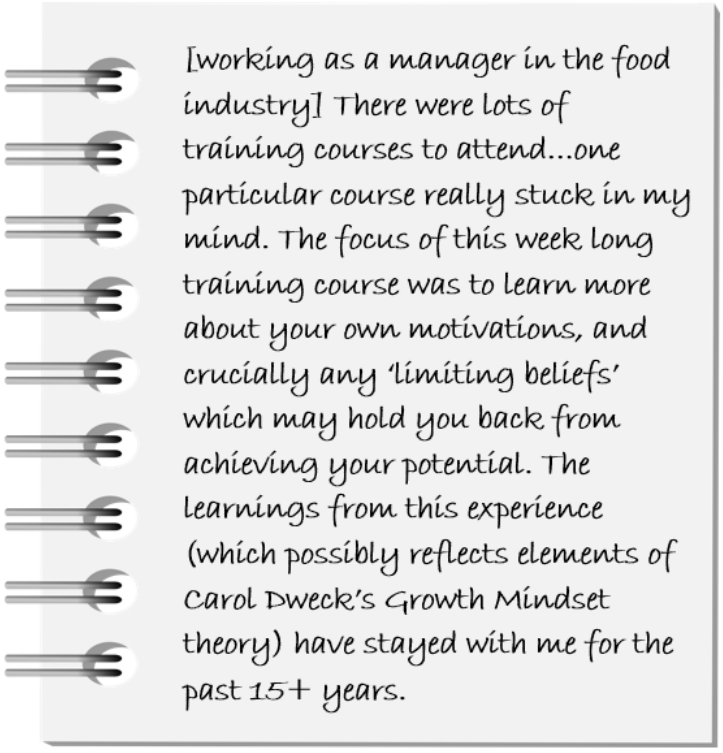
In summary it appears essential that a more sophisticated consideration of professional development is required. In reality, this nuanced understanding could easily be overlooked by all involved in teacher PD, not least teachers themselves. Specifically the consideration of personal or attitudinal factors may be lost amongst practical or content issues. The examples discussed earlier, relating to participants in the Chartered Teacher programme illustrate this point well as does research into teacher engagement with Masters-level study (Beresford-Dey and Holme, 2017). Therefore, in an attempt to add depth to the analysis of teacher PD, the next consideration will focus on what Evans (2014) terms, the ‘attitudinal’ and ‘intellectual’ developmental components and the componential structure of professional development (Figure 5, see previous page).

The issue of attitudinal development and growth and how this impacts on engagement with teacher professional development is not new. An interesting thesis, based on a large-scale longitudinal study, conducted by Joyce and Showers in the 1980s identified three classifications of teachers based on how they related to professional development (Joyce and Showers, 1988). The first group, named ‘gourmet omnivores’ (representing 20% of the sample) were those who would initiate new schemes, were highly active (personally and professionally) and sought similar minded teachers to co-operate with and learn from. This group also had a strong sense of self and worked toward self-actualising behaviour and would exploit, but also attempt to enhance their environment. The second category, the ‘passive consumers’ (70% of the sample), largely conformed to the status quo and followed the lead of others. Crucially, unlike the ‘gourmet omnivores’ they would not integrate professional development into their everyday lives. The final group (10% of the sample), termed ‘reticent consumers’, were characterised by a suspicion of authority and a cynical attitude to the ‘gourmet omnivore’ group. They were also likely to put minimal effort into the process of professional development or learning.

From personal experience, the Joyce and Showers’ classification seems relevant; however a critique of this theory is that it simply reflects the hegemonic position of the male-dominated managerial-driven society within which education operates (Craft, 2000). Although this study dates from the 1980s it introduces categorisation that will be utilised in later analysis and discussions. This is

another key factor that will run through subsequent discussions and the later data analysis stage. The fact this theory, and research, is now around 30 years old means it must be considered judiciously. However, applying the broad principle that some teachers are more inclined, or motivated, to develop professionally than others seems reasonable. This broader factor of motivation will be discussed in greater detail in Chapters 6 and 7, and the related emergent themes such as teacher identity and personal power will be explored in Chapter 8.

Relating the Joyce and Showers' (1988) and Evans' theory (2014) to myself I realise that this attitudinal element, specifically the motivational component (Evans, 2014), has always been an important factor in my *own* personal development. The vignette below, referring to a time before I entered teaching, illustrates this. The term 'limiting belief' was used to identify things that were stopping the participants achieve their potential. For myself, and other learners, this focussed on attitudinal or intellectual characteristics and not behavioural or practical ones (these were covered in separate, discipline specific, training sessions based on your role e.g. manufacturing, finance or engineering).



Despite my own personal recognition of the attitudinal element within PD it appears to be less well represented in academic literature especially those investigating practical examples of PD. This may be because there is an

assumption that teachers are naturally motivated to learn and develop so there is little reason to consider attitudinal factors. The classic work by Guskey (1986) suggests that changes to teacher attitudes and beliefs come *after* teacher practices and student outcomes have changed. Building on this Clarke and Hollingsworth (2002) argue that this process is more interconnected and the two-way processes of reflection and enactment link belief and attitude to the domain of practice. This reciprocal nature of attitude and enactment within PD is highlighted by Kennedy (2005) who argues that if teachers are given ownership for PD then this will in turn have a positive impact on levels of motivation. Research has also identified that intrinsic personal factors can be the catalyst to teachers engaging in PD activity (McMillan et al., 2016). Furthermore it has also been suggested that if teachers are intrinsically motivated to undertake PD, rather than being mandated by an organisation, or to achieve a particular end (such as enhanced salary of promotion) then there is greater chance they will encounter a deeper learning experience (Varga-Atkins et al., 2009). This may have been an issue with the CT programme, discussed in the previous section.

Historic evolution of PD in the UK and Scotland

Teacher development began to take on greater prominence within UK educational policy in the later 1980s (Burgess, 1993). However, prior to this, different governmental reports had considered this issue within a broader context. This section considers the general issue of teacher education and PD, within the UK, starting with the period from the 1940s to the 1980s.

Teacher PD in the UK 1940s-1980s

As far back as 1944 the Board of Education McNair report addressed the issues of teacher supply, recruitment and training (McNair, 1944). As a result the process of ongoing teacher development was raised and the term ‘refresher courses’ introduced:

> *Arrangements, by no means systematic, are made so that practising teachers may attend refresher courses or courses designed to equip them for particular branches of the school curriculum. These courses are conducted by training colleges and university training departments, by local education authorities and by independent organisations. (McNair, 1944, p.16-17)*

This shows that although there was access to professional development it was organised and operated by formal institutions and organisations. Consequently individual schools and teachers had little involvement in direction or delivery of professional development. The recommendation was that such short courses should be utilised as these would benefit the teachers and education profession. In particular this would help teachers update their knowledge and skills and:

> *…be the duty of the area training authorities to provide them. Short courses are of many kinds: refresher courses for those who may be getting stale or at any rate need to bring their knowledge and practice up to date. (McNair, 1944, p.136)*

It is interesting to note that, despite suggestions for improvement within teacher training, recommendations stopped short of making ongoing professional development mandatory. This issue of compulsivity of PD is still being raised and debated (Cordingley et al., 2015). Over the subsequent two decades, possibly due to other major changes in British education, it seems little progress was made within the area of professional development. Writing in the inaugural edition of the British Journal of In-Service Education, Knowlson (1974) raised the significance of professional development for the teaching profession in the UK. At this time it was mostly recognisable as in-service training (INSET), with the in-service element suggesting that this was something that only took place during work hours and was explicitly connected to the task of teaching. The lack of desire or motivation to engage with PD was clearly seen as an issue, however it was also suggested that some teachers did engage with, and see the value in, professional learning and that ‘many teachers - though perhaps a minority - do involve themselves in study of one kind or another’ (Knowlson, 1974, p.4).

This analysis took place in the immediate aftermath of the UK governmental publication of the James Report (James and James, 1972) which made the somewhat damning assertion that teacher training was no longer adequate for its intended purpose. The report stated that, among other issues, this ‘inadequacy arises from an over-dependence upon initial training, as distinct from continued education and training’ (James and James, 1972, p.1). The assertion here was that teacher training, and ongoing development are not the same thing. There are a number of similarities between the findings of the James report and that of Teaching Scotland’s Future (Donaldson, 2010), published nearly four decades

later. Therefore, it seems that although the nature of education in the UK has changed considerably since this time, teacher professional development continues to face similar issues and challenges.

Teacher PD in Scotland through the 1980s

In 1979 the influential report the Future of In-Service Training in Scotland, known as the 'Green Report' (Wilson, 2001), was prepared by the National Committee for the In-Service Training of Teachers (National Committee for the In-Service Training of Teachers, 1979). This laid the foundations for some major changes in the way in which professional development for teachers would be organised. The Green Report was followed by further recommendations, and a report entitled 'The Development of the Three-Tier Structure of Award Bearing Courses' was published setting out how PD could be supported and delivered at different stages in a teacher's career (National Committee for the In-Service Training of Teachers, 1984b). This proposed that there should be three stages, or tiers, at which teachers could access developmental opportunities; depending on ability and experience. Some progressive elements were included within the highest Level Three courses (Masters-level degree), such as an opportunity for participants to 'link their experience in practice to educational 'theory'' (Erskine, 1988, p.115). However, the proposal of the 'national framework' for PD also focused heavily on practical functions of teachers' professional responsibility or the 'craft' of teaching as it has also been termed more recently (Kirk, 2011).

Alongside the report on the three-tier structure of award bearing courses was a report titled 'Arrangements for the Staff Development of Teachers' (National Committee for the In-Service Training of Teachers, 1984a) which considered some of the practicalities of teacher development. This report encouraged teachers to take part in discussions relating to their personal development. Furthermore teachers were encouraged to identify their own developmental needs by way of self-evaluation. Crucially though, this process was one-way meaning teachers would be subjecting themselves to the scrutiny of critical reflection without the opportunity to do the same for the wider educational system (Erskine, 1988). This could be interpreted as representing the hierarchical, or one-way relationship, present within the education sector.

Despite this limitation it could be argued that a major guiding principle in the two reports was for teachers to be collaboratively engaged in the process of PD. As a result 'teachers would be developed "tacitly", and in a manner that allowed them a *sense* of autonomy within a structure of hierarchy' (Hartley, 1989, p.212). The use of the term 'tacitly' is interesting as this idea has been considered in relation to learning (Eraut, 2000) and recently applied specifically to professional development of teachers (Evans, 2016) which will be revisited later in this thesis (Chapter 8) alongside ideas such as informal learning (Rogers, 2014). Hartley's choice of italics to emphasise *'sense'* suggests that genuine autonomy may not have been the real objective, or was even thought possible by policy makers and managers at this time. In addition, having borrowed concepts from human resource management, the focus was on 'consultation, *not* collaboration' (Hartley, 1989, p.214). Despite this criticism there appeared to be an aspiration, by policy makers, to allow teachers the opportunity to play a greater role in their own PD. This issue of autonomy is one that will be considered during the empirical research stage that follows this literature review.

These positive signs of greater teacher autonomy were subsequently off-set by further recommendation for a periodic review of needs so they could be 'kept abreast of the considerable changes in the curriculum (National Committee for the In-Service Training of Teachers, 1984b, p.ii)' and this process would help teachers who had the basic level of competence, develop further. The underlying message appeared to be that teachers still needed to be accountable to a higher authority and the lack of detail about who this would be, and how or why this was required does have some similarities to the current situation in Scotland where the General Teaching Council for Scotland accredit professional development (GTCS, 2015b) and require sign off for the Professional Update process (GTCS, 2015a).

The 1979 Green Report identified key phases in a teacher's career, linked to professional development, which was further developed by the proposals for a three-tier structure of CPD (National Committee for the In-Service Training of Teachers, 1984b). The Initial Teacher Education and Induction phase was followed by Orientation, then Advanced Studies, and then Further Studies. The latter three phases aligned to specific levels of award, namely PG Certificate (during Orientation phase), PG Diploma (during Advanced Studies phase) and

ultimately a full Master of Education (MEd) award (National Committee for the In-Service Training of Teachers, 1984b). It was envisaged that these programmes of development would focus heavily on ‘matters of practice’ such as management or curriculum, and ‘the practicalities of schooling’ but crucially not on ‘the reasons for that practice, on educational theory’ (Hartley, 1985, p.7). With this analysis Hartley appeared to imply that this lack of basis of practice on theory was problematic. Another interesting observation was that the term ‘refreshment’ was also used to cover these later phases, which for those ‘destined for leadership’ could even include an ‘out-of-service spell in industry or commerce’ (Hartley, 1985, p.7). This final idea appeared not to be followed through, although the link between education and industry and commerce would resurface again, with the consideration, during a government consultation in England, of sabbatical opportunities for teachers who had been employed for more than seven years (Department for Education, 2017). Meanwhile, more recently, the importance of different forms of PD, at different stages of a teacher’s career has been identified (Richter et al., 2011), and supports the assertion that a traditional ‘one size fits all’ approach to PD is not appropriate.

In 1989 a further consultation and report was issued entitled ‘Teachers’ Professional Development into the 1990s’ (Scottish Office Education Department, 1989) which moved further away from the idea of engagement or involvement of the teaching profession with more emphasis on those in control or positions of power. One suggestion was a voucher based system for in-service training and alongside this there was a more pronounced move toward technical competence and skills based professional development. Hartley (1989) argued that this was still hierarchically driven as PD opportunities were informed by teachers’ training needs and dictated by senior management assessments who would ‘sign off’ or approve requirement. All this occurred against a backdrop of an increased interest in professional development and learning across the UK. However, as the decade drew to an end, policy on teacher development was still based on either dominant views of good practice or common-sense reasoning of policy makers which Calderhead (1988) argued resulted in a lack of sophistication for teacher education in general.

Nearly a quarter of a century later similar initiatives continue with funded Masters-level places, the requirement for teachers to engage in a certain amount of CLPL

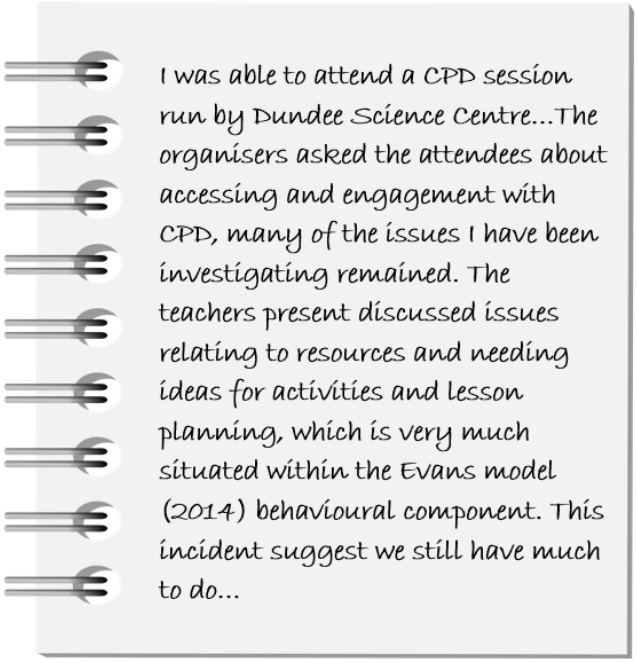
each year and the 5 yearly manager sign-off for Professional Update (GTCS, 2015a).

Teacher PD in Scotland through the 1990s

In Scotland, during the 1990s, formal teacher professional development expanded through award bearing accredited provision, alongside non-award bearing delivery. At this point the terminology in literature evolved to become CPD, reflecting the importance of cyclical, on-going developmental activity; recently identified as 'rhythm' and as being a critical factor in effective teacher PD (Cordingley et al., 2015).

In the 1990s a full suite of the formal qualifications, discussed above, were eventually validated. One of the regional colleges responsible for this was Northern College,[13] where the process began in 1993 and at the time of writing some of these programmes remain, albeit in a much changed form in different institutions. However, during the 1990s, the type of non-award bearing CPD in Scotland being offered by providers such as Northern College fluctuated in part due to the manner in which the Scottish Office staff development budgets were distributed to Education Authorities. Providers delivered short courses and some offered educational resources to support teaching (Wilson, 2001). This illustrates that CPD was still being delivered in a top-down manner with a focus on skills or practical tools for teaching, reflecting the craft or technocratic view of teaching. In addition there was far less, if any, focus on supporting internal capacity building that would allow teachers to take responsibility, and ownership, for their own development. This may have been due to teachers desiring this form of PD, a view which, anecdotally at least, is still common today. For example, whilst attended a teacher CPD session in February 2018, as the vignette taken from the reflexive diary, below demonstrates:

[13] Teacher education and PD courses based within Northern College later moved to the Universities, including Dundee and Aberdeen.



The focus on vocational, or skills based, approach to teacher development in the 1990s is unsurprising considering the wider environment in which teacher education existed during this period. In 1992 the Further and Higher Education (Scotland) Act led to changes in the way in which higher education institutions were constituted and in turn this made the prospect of university based teacher education institutions more likely. In some quarters such mergers were seen as beneficial especially as the universities were able to 'make a stronger contribution to the… continuing education of teachers' (Kirk, 1999, p.108). These changes took time to embed and Scotland retained teacher education within the college sector until the late 1990s and early 2000s. This 'monotechnic' system (Kirk, 1999) had the advantage of encouraging cooperation between the various providers, which specialised in certain subjects, so they did not compete against each other. However, as this provision underwent rationalisation so the capacity for delivery was reduced to the extent that there was 'a steady erosion of the academic base of the institutions' (Kirk, 1999, p.104). This would undoubtedly have had an impact on professional development for teachers as the capacity to deliver PD also reduced.

Teacher PD in Scotland since 2000 – Chartered Teacher to Career-Long Professional Learners

Alongside the realignment of teacher education, and the merger of colleges and universities, a national framework for PD was established in 1998, which was a

result of recommendations in the Sutherland report published a year earlier. This was formally enshrined in legislation in 2000 and the General Teaching Council for Scotland (GTCS) was appointed as the statutory body responsible for teachers' career development (Kennedy, 2008). In 2001 the report 'A Teaching Profession for the 21st Century' addressed terms and working conditions for teachers in Scotland (Scottish Executive, 2001). The McCrone agreement, as this report came to be known, laid out recommendations including that by 2003 there would be a contractual requirement for teachers to undertake 35 hours of CPD per annum:

> *Continuing professional development (CPD) should be a condition of service including every teacher having a commitment to CPD, with individual CPD plans agreed once a year with the immediate manager, and teachers maintaining a personal record of CPD (Scottish Executive, 2001, p.16).*

At the same time the Scottish Executive set out plans for the, now discontinued, Chartered Teacher (CT) Programme, which was intended to give experienced teachers an opportunity for development and progression that ran parallel to the usual management progression routes. The suggestion was that, although a challenge, most teachers would be capable of achieving CT status, and then be able to progress, via a four year scheme to becoming Advanced Chartered Teachers (ACTs) (Connelly and McMahon, 2007). It was also decided, following consultation with the teachers' professional bodies, that the English model of threshold payments for performance, allowing class teachers to access an upper pay scale, would not be pursued (Christie, 2006). In hindsight however, the two contrasting schemes turned out to be utilised for similar purposes, namely to retain experienced teachers through financial reward. The connection to developing practice was clear as the CT programme aimed to encourage 'the best teachers to remain in the classroom whilst striving to improve their practice' (O'Brien and Hunt, 2005, p.453). It was also argued that the CT scheme mirrored the Standard for Headship with professional values underpinning the element of professionalism (Reeves, 2007).

Amidst these changes there was a continued move toward increased private sector involvement in the public sector. One of the highest profile examples being Private Finance Initiatives (PFI) or Public Private Partnership (PPP) initiatives which began in the UK in the 1990s (Smyth and Edkins, 2007). This trend toward

increased private sector involvement in education was evident when a consortium including Andersen Consulting plc and the universities of Edinburgh and Strathclyde was successful in the public tender process to develop the 'expert teacher' standard which would create a 'blueprint for the teaching profession for the twenty-first century' in which 'capacity and accomplishment in the classroom are the envisaged hallmarks of the new status and importantly grade of teacher not post.' (O'Brien and Hunt, 2005, p.450).[14] Delivery of the CT programme was by universities, with courses being accredited by the GTCS, although it was questioned why other providers could not be involved in this process (Ingvarson, 2009). This points toward the stewardship of education in Scotland being in the hands of a small number of organisations. In some respects this could be seen as required to maintain standards and ensure quality whereas the counter argument may be that it is a symptom of a system that privileges a protectionist, or even elitist, agenda.

Although key stakeholders were very positive about the CT programme the empirical evidence relating to the benefits of the scheme was less convincing. A study investigating CTs, albeit with a relatively small sample size (*n= 28*), found that:

> *…teachers could articulate ways in which they were benefiting professionally, and how learning and teaching in their classrooms was developing, but there was weak evidence of perceived benefits for schools in a wider sense. (Connelly and McMahon, 2007, p.91)*

A further challenge was that because teachers needed to fund their own participation this may have provided a 'sense of personal entitlement [that] can lead to a detachment from the broader needs of school communities.' (Connelly and McMahon, 2007, p.103). Other problems centred on dissemination of practitioner research where CT participants wanted to retain control of projects and found acting democratically a challenge (Reeves, 2007).

In addition, the research from Connelly and McMahon (2007) found there was a lack of clarity around the level of influence that the enhanced salary structure had

[14] A side issue to this is that in 2001 it emerged that Andersen Consulting plc were heavily involved in the Enron financial scandal, and this led to the company being broken up (Cornford, 2004). Therefore, the relatively short-lived CT programme still outlasted one of the organisations which had been responsible for its inception.

played when teachers decided to embark on the CT programme. As a result it was suggested ‘The linking of CT to a revised pay structure and renegotiated conditions of service resulted in a distorted focus on enhanced salary rather than enhanced practice’ (Connelly and McMahon, 2007, p.103) with recent research suggesting PD models linking teacher incentives to learner outcome are ineffective (Kaimal and Jordan, 2016). The debate around rewarding practitioners for undertaking professional development, including at Masters-level, continues with recent research suggesting that intrinsic motivation may be as important as extrinsic (Beresford-Dey and Holme, 2017).

Returning to the CT programme some of the evidence collected from participants did not seem to match the initial high expectations of the scheme. During their research Connelly and McMahon (2007) reported on a successful, late-career stage, participant who was proud that, following their involvement in the programme, they had been able to organise a trip, acted as school health co-ordinator and even spoken out about an inappropriate poster. Another respondent in the same study commented that they had ‘gained a problem-solving booklet out of one of my pieces of course work’ (Connelly and McMahon, 2007, p.100). These examples may suggest that participating teachers had low expectations of PD, as these were the sort of activities most teachers would have been expected to undertake anyway, or thought that PD should result in practical or behavioural outcomes (Evans, 2014). Furthermore, engagement with the CT scheme may have legitimised these views. Of course, it is not clear if this represented the wider view of PD amongst teachers when the CT programme was initially developed.

One of the difficulties with CT, and PD in general, may have been due to a lack of shared understanding of objectives or even terminology. The Standard for Charter Teacher included four core professional values and personal commitments, namely: ‘effectiveness in promoting learning in the classroom, critical self-evaluation and development, collaboration and influence; and educational and social values’ (Scottish Executive, 2002, p.1) which includes a range of highly subjective terms. This raises a further potential criticism of the CT programme, namely that the award, especially via the GTCS accreditation of prior learning route, was interpreted inconsistently. However, underlying this issue, and drawing on the research by Connelly and McMahon (2007), there appeared

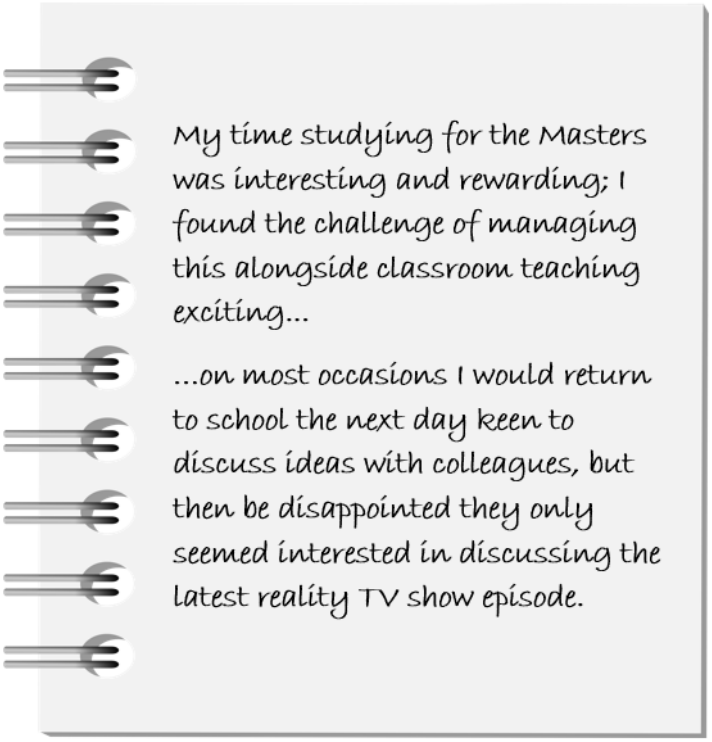
to be a disconnection between the aims and reality of delivery. Of course this theme may not be unusual in the education sector and professional development initiatives and the shared understanding or PD between teachers, managers and policy makers. This issue will be explored when discussing the results of this doctoral research project (Chapter 6).

A concerning finding from those who had been participating in the CT programme was the apathy, and in places hostility, to the scheme from colleagues (Connelly and McMahon, 2007). This was further supported by evidence elsewhere that CTs were facing practical and cultural barriers within their schools.[15] To effectively overcome these challenges collaboration within schools, and a use of evidenced-based practice, was needed (Reeves, 2007). The importance of a full school approach and in particular managerial and leadership support for the CT programme were identified elsewhere:

> *The risks of 'tissue rejection' by existing staff cultures are high, if related reforms are not taking place in school organisation and management. A change in one part of an organisation as fundamental as the chartered teacher concept cannot be insulated from other parts of the organisation, or leave them unchanged. (Ingvarson, 2009, p.462)*

Teachers undertaking self-directed learning may encounter antipathy from others who are not engaging in this activity. This is something I encountered when I began part-time Masters-level study, whilst teaching (see vignette below).

[15] Anecdotal evidence from those teaching at the time suggested that some teachers, especially in the secondary sector, with reduced workloads, were able to undertake CT and this created animosity, which may mirror the 'tissue rejection' phenomenon suggested by Ingvarson (2009).



In November 2010, amidst the global financial crisis and with inconclusive evidence of its efficacy, the CT programme was put on hold. When the seminal report 'Teaching Scotland's Future' (Donaldson, 2010) was published, a month into the hiatus, there was further argument that CT had not lived up to the early expectations as it was not seen to be having either a significant, or beneficial, impact on the learning of young people. This was summarised as:

> *Overall, there is not enough evidence that the chartered teacher programme has as yet achieved what it set out to do. The programme does not always attract and reward our highest-performing class teachers and the nature of the programme does not ensure that participants are better teachers as a result of gaining the award (Donaldson, 2010, p.77).*

Another key issue in the case of the CT scheme was financial. It is possible that the cost to government and the fact it was being used, in some cases, to boost salaries of long serving teachers may have been seen as unsustainable, although if this was the case it was never made explicitly clear by the Scottish Government.[16]

[16] As the current research project was completed a similar accusation was made by some teachers about the use of Pupil Equity Fund (PEF) which created time-limited Principal Teacher posts.

Interestingly, within the same report, a further recommendation was made that teaching in Scotland should begin to move *towards* becoming a Masters-level profession. Survey data collected for the Donaldson report had shown teachers were more likely to undertake other post-graduate study than the CT programme (Donaldson, 2010, p.77). Although the Donaldson report stopped short of saying that all Scottish teachers *must* be qualified to Masters-level it did introduce the idea of linking Masters-level study to both initial teacher education (ITE) and early career teachers:

> *A greater range of CPD should be formally accredited. Masters level credits should be built into initial teacher education qualifications, induction year activities and CPD beyond the induction year, with each newly-qualified teacher having a 'Masters account' opened for them. (Donaldson, 2010, p.76)*

The report also gave a negative impression of PD in Scottish education asserting that ‘too much current activity is of a relatively low level’ (Donaldson, 2010, p.76). The CT programme, and associated Standard (Scottish Executive, 2002), was subsequently superseded by the Standard for Career-long Professional Learning (GTCS, 2014a). The experience in Scotland, with Chartered Teacher, has some obvious parallels to the, now closed, Masters in Teaching and Learning scheme, operated in England around the same period.

At the time of writing Chartered Teacher status still exists, featuring within teacher pay scales, but the scheme no longer operates (although one final student was still working their way through the scheme in early 2019). The Association for Chartered Teachers still operates, albeit in a greatly altered and reduced manner but teachers are no longer progressing through the programme. In November 2014 the Association for Chartered Teachers announced that they would be rebranding themselves as a new organisation called the Scottish Teachers for Enhancing Practice which they hoped would ‘have a broader appeal as membership would be open to all teachers wishing to enhance their practice, not just Chartered Teachers’ (Scottish Teachers for Enhancing Practice, 2018, no page). Alongside these formal systems for professional development for Scottish teachers many informal opportunities existed and these will be addressed subsequently. Despite the relative short life of the Chartered Teacher programme it could be suggested that the initiative played a role in shifting teachers’

perceptions of how Masters-level study, and research, could play a role in their professional development.

International requirements for teacher professional development

Whilst in the development stages the CT programme was heavily influenced by similar international PD schemes, such as the US National Board of Teaching Standards and the Australian College of Education (Christie, 2006; Reeves et al., 2010). As the CT programme was coming to an end, Teaching Scotland's Future considered PD within education on an international level stating that 'internationally, there is a move towards teaching becoming a Masters-level profession' (Donaldson, 2010, p.75). The report acknowledged a connection, based on international data, between the levels of teachers' qualifications and higher educational performance. This focus on Masters-level learning is also apparent in other European countries, such as Finland, Portugal and Norway where there is an additional requirement for research work to be completed (Leask and Younie, 2013).

International approaches to teacher PD vary considerably and within some countries, including Germany, teachers are required to undertake PD as terms of their employment. In addition there are also differences in whether involvement with PD is linked to career advancement or salary progression. In Spain, for example, PD engagement is optional but can have implications for career and salary advancement, whereas in France, Sweden and other countries there is a professional duty to undertake PD, but without any impact on career and salary improvement (Scheerens et al., 2010). In the US the situation differs from state to state although specific state legislation can mandate teachers to engage with continued education as a condition of retaining their licence to teach (de Vries et al., 2013). Research from the US has suggested that this focus on a set number of hours for PD may influence teachers in their view of what is important about PD, potentially acting as a demotivating factor (Appova and Arbaugh, 2017). The general issue of motivation to engage in PD will be revisited in the later (Chapter 6).

International comparisons for PD in education can provide useful opportunities for evaluation. Obviously there are undoubtedly major political, socio-economic and cultural differences between regions of the UK and these differences are

magnified when considering international examples. The field of international comparative education is notoriously complex with a range of methodological challenges for researchers (Arnove et al., 2012). Therefore, for the purposes of this doctoral research study the main focus will be on PD within Scotland and the UK, although there will be reference to international sources where appropriate.

Current policy for Professional Development in Scotland

Following the suspension of the CT programme in 2010, and the introduction of the GTCS Standard for Career-long Professional Learning (CLPL) the current situation with PD and professional learning in Scotland is arguably more varied than ever before. The formal systems of Professional Update (PU) and Professional Recognition (PR) are being utilised by the GTCS to support PL of teachers. The Professional Update system allows teachers to track, through an online data repository, details of their professional development activity. This ongoing process aims to:

> *…maintain and improve the quality of our teachers as outlined in the relevant Professional Standards and to enhance the impact that they have on pupils' learning and to support, maintain and enhance teachers' continued professionalism and the reputation of the teaching profession in Scotland (GTCS, 2015a, no page).*

In Scotland Professional Recognition is the process by which teachers receive credit as they develop as reflective, accomplished and enquiring professionals by continuing to enhance their practice throughout their careers. This can be done in one of several key areas covering specialisms, for example; Pedagogy, Learning and Subject Knowledge, Enquiry and Research, and Learning for Sustainability. The process requires evidence to be collated by teachers, in consultation with their line manager, and a claim submitted to the GTCS for approval. The award remains current for five years and the Professional Recognition system is designed to operate in conjunction with the Standards for Career-Long Professional Learning, the Standards for Leadership and Management or the Professional Standards for Lecturers in Scotland's Colleges (GTCS, 2015b). In addition the award should provide evidence for the Professional Update process and ‘effective, consistent Professional Review and Development and high-quality professional learning’ (GTCS, 2015a, no page). The involvement of the GTCS, and other formal bodies, may also illustrate there

is an ongoing emphasis on quality assurance and desire to provide a structure for teacher PD in Scotland (this theme is explored in greater detail in Chapter 6).

On a less formal level a range of organisations provide a wide variety of PD opportunities (often termed CPD) for schools and teachers. Until fairly recently the Education Scotland website housed a database of links for a range of resources and a search for the keyword 'cpd' returned 300 pages of resources (see Appendix 3 for screen shot).[17] These included articles and resources, and covered a wide range of topics, subjects and sectors (including adult learning). Some of the resources were posted more than a decade earlier which demonstrated a lack of currency and a number included broken links. Some simply linked to external provider websites, such as Glasgow Science Centre, or private training providers. An informal review of these opportunities and resources suggested variability in quality; based on personal experience from when I was teaching this issue may not be unique, as the next vignette illustrates.

In addition to general resources posted to the website, Education Scotland had previously offered the Professional Learning Find (PLFind) tool (Education Scotland, 2015) which allowed providers to list and teachers to search for PD

[17] Following a revamp and relaunch of the Education Scotland website in early 2016 this function was removed along with a large number of other resources and documentation. This was a response to the Scottish Government's attempts to reduce bureaucracy.

opportunities.[18] The forerunner to the PLFind pages was the CPD Scotland website, which was archived in 2013 (Education Scotland, 2013) at the same time as the National CPD Network closed down and the Education Scotland National CPD Coordinator post was made redundant. The activities of this group have since been partially undertaken by a new group, involving key stakeholders and operating under the name Scottish Education Professional Learning Network. Although this group arrange regular meetings and includes many influential figures the latest webpage post was from November 2016, suggesting intermittent outward facing activity (Scottish Education Professional Learning Network, No date). On a more localised level local authorities have alternative methods of coordinating and disseminating information about PL or CPD opportunities which depends very much on the LA.

In contrast to these less formal examples of PD activity the Scottish Teacher Education Committee (STEC)[19] Professional Development group was charged, as a result of the Donaldson report, with the development of a Scottish Framework for Masters Education (GTCS, 2015c). This aimed to allow teachers and educators to 'create a coherent professional learning experience' (GTCS, 2015c, no page) whilst studying at Masters-level as part of their professional development. At the same time a related initiative required all newly appointed headteachers to attain a Masters qualification for headship, beginning in the academic year 2018-19 (Scottish Government, 2015).

These various examples clearly show teacher PD is a priority for policy makers in Scotland and is operating at several levels, although not always in a coherent or consistent manner. The traditional view of teacher PD may have been one-off training sessions but there is clearly a move to making it career-long. The term Career-Long Professional Learning (CLPL) seems to represent the idea that teacher professional development is cyclical and ongoing and this interpretation mirrors the spiral model of PD, proposed by Pollard (2014), linking professional competence to reflection. Having considered the evolution of policy, and formal

[18] As with the CPD search function on the Education Scotland website this resource was removed in early 2016.
[19] The STEC group was reformed and renamed as the Scottish Council of Deans of Education (SCDE) in 2017.

approaches to PD, predominantly in the UK, the next section will explore new, potentially less formal, directions in teacher PD.

New directions in Professional Development

In 2011 the journal, Teaching and Teacher Education, published a meta-analysis of literature relating to teacher PD over the previous ten years (Avalos, 2011). This analysis identified several thematic emphases in the literature during this period. Although a wide range of topics were covered a majority of the content focused on practical projects, situated in formalised contexts. Themes included: beginning teachers (often involving school based mentoring), teacher-university partnerships and workplace learning, and school cultures. The authors did not include examples of research focusing on entirely teacher-initiated PD situated beyond school, university, local authority or government control. This adds further weight to the suggestion that a research focus into informal teacher learning and development is lacking, although recently greater attention is being paid to this topic (Kyndt et al., 2016).

One explanation for a lack of research into informal PD is that there is no accountable body or formal organisation involved and so evaluation is not required. Put more simply if there is no ‘owner’ of the PD then it is less likely anyone will need or want to evaluate and research the activity. The debate over ownership of professional development is an important one with some new perspectives recently proposed. Evans (2015) argues that as the nature of education and teaching has changed, impacting on professional development; it is no longer ‘something that is done deliberately to people, with their full knowledge and consent’ but instead ‘creeps up on people unawares and erodes away at their thinking and their attitudes’ (Evans, 2015, p.10). If this is the case then in future teachers who may be best placed to lead professional development are those who acknowledge this and take steps to challenge the erosion of thinking and attitude. These teachers may in turn become active seekers, then owners, rather than passive recipients, of professional development; this theme will be introduced and discussed later (Chapters 6, 7 and 8).

Despite the scarcity of concrete research evidence teachers are engaging in a range of informal PD which includes study groups, EdCamps and conversations with colleagues (Trust et al., 2016). Podcaster and educator Jennifer Gonzalez

recently attempted to survey, via Twitter, alternative approaches to PD and was inundated with replies (Gonzalez, 2018), demonstrating the variety of ways in which teachers are accessing and utilising new approaches. This may be because informal learning opportunities are better placed to support the holistic needs of teachers through collaborative co-construction (Trust et al., 2016). This theme of collaboration will be considered later (Chapters 6, 7 and 8).

Over the last decade there have been further interesting developments beyond the traditional top-down approaches to teacher PD, driven instead by teachers who are taking responsibility for their development, often facilitated by technology (Carpenter, 2016a). This is highlighted, by Carpenter who states:

> *…stories of teachers taking charge of their professional growth are becoming increasingly common. Such self-directed learning contrasts with traditional professional development (PD), which has often been something done to teachers. In conventional PD, outside experts typically transmit knowledge to largely passive teacher audiences (Carpenter, 2016a, p.30).*

In contrast research (Appova and Arbaugh, 2017; Heystek and Terhoven, 2015) has suggested that formalised (national, local authority or school organised) PD, in teacher's spare time (e.g. weekends or holidays) is, perhaps unsurprisingly, unpopular and potentially demotivating. In addition Slimani-Rolls and Kiely (2018) acknowledge the importance, alongside formal CPD, teacher-initiated and informal learning with peers and students. These are professional or Teacher Learning Communities, TeachMeets, and digital platforms including social media and online learning communities.

As this teacher-led form of PD appears to be a developing area, which at times is difficult to demarcate, three specific broad areas will now be considered in more detail.

Professional or Teacher Learning Communities

The concept of educators working collaboratively has gained prominence within what could loosely be termed professional communities. The idea of groups working together, beyond normal professional or organisational boundaries, identified in a range of settings and professions beyond education, has become known as Communities of Practice, or CoPs (Wenger, 1998). As this broader concept developed the terminology, in education specifically, evolved to become

professional learning communities or PLCs (Stoll and Louis, 2007). Most simply these have been described as ‘a group of teachers sharing and critically interrogating their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth promoting way’ (Stoll and Louis, 2007, p.2).

More recently the well-known educationalist Dylan Wiliam utilised similar ideas to enhance and facilitate schools in engaging with formative assessment (Leahy and Wiliam, 2012). Such groups have been termed Teacher Learning Communities (TLCs). Usually projects or initiatives will be supported, or led, on a school or local authority level but the involvement of teachers is essential. There is a considerable body of literature which considers the impact of PLCs and TLCs (e.g. Forde and McMahon, 2014; Stoll et al., 2006; Vescio et al., 2008) which, in the main, present a positive view. However, in some cases these initiatives do not follow established boundaries and hierarchies with Stoll and Louis pointing out that:

> …professional learning communities [PLCs] can cross such boundaries, both the fuzzy social differentiations that develop between groups within the school, and the clearer borders that separate the school’s members from those in the community and in other schools (Stoll and Louis, 2007, p.4).

It is these informal elements of PLCs that are of specific relevance to the current study as there is no reason that professional or learning communities *must* be connected to a particular school or educational establishment. The next innovation to be considered has some similarities to PLCs but operates well beyond any formal, externally imposed, education boundaries.

TeachMeets

As explored earlier the traditional view is that professional development should occur within formal structures, but this is slowly being challenged by some teachers. A fairly recent innovation in education has allowed teachers and educators from a variety of backgrounds to form informal and ad hoc learning communities. TeachMeets originated in Scotland in 2006 (Wikipedia, 2010) and are organised events which allow teachers to come together to learn. The very early TeachMeet events were summarised as being simply ‘a short burst of

innovation from Scotland and around the globe' (McIntosh, 2006). Since then they have been organised in countries including Scotland, England, Northern Ireland, Australia, Canada, Croatia, Czech Republic, Denmark, Ireland, Sweden, the USA, New Zealand (Wikipedia, 2010).

Although early TeachMeets focused on school education the themes and topics they now cover has expanded considerably. Crucially TeachMeets are not 'owned' (this term will be explored later in Chapter 4) by any formal organisation and can be accessed without cost by anyone interested in education. Within the TeachMeet model if costs are incurred these are covered by donations in-kind (such as the loan of a venue) or via sponsorship from private companies (such as an educational textbook publisher). The attending teachers can sign up to attend and simply 'lurk', or can offer to present on an education topic of their choice with presentations limited to three or seven minutes. TeachMeet events are organised predominantly by utilising the TeachMeet wiki (an open access editable webpage). A recent variation on this has developed in England where BrewEd events involve teachers meeting in their own time in a pub or similar venue to discuss and debate issues relating to pedagogy and education policy (Egan-Smith and Finch, 2018). In a similar way conference style events such as Primary Rocks in the UK (Primary Rocks, 2017) and EdCamps in the US (Swanson, 2014) have developed at grassroots level. A key characteristic of all these events is that teachers initiate them, taking ownership of their own professional development.

Despite minimal published literature in this area there is considerable interest, activity and engagement from teachers suggesting they are providing valuable opportunities for professional development and learning. This issue of ownership and belonging may have implications for informal or teacher-initiated PD and will be explored later in the findings and discussion sections.

Digital platforms, social media and online communities

The development of the previous two examples (PLCs and TeachMeets) has been facilitated and enhanced through technological advancements. Although there has been some criticism of the use of technology to support access to, and engagement with, PD (Conlon, 2008), there are also considerable benefits, for example, through facilitating teachers to share, create and manage knowledge

(Leask and Younie, 2013). These systems enable sustainable and comprehensive communication between teachers leading to the development of online learning communities, which can be used effectively to facilitate PD (Lock, 2006). However, the informal or transient nature of these communities means they could be subject to criticism.

A wide range of social media tools and platforms, such as YouTube channels, Facebook, Google+, blogsites (such as WordPress) and Pintrest, are all being utilised by teachers for a range of educational purposes. The application of platforms such as Facebook for teacher PD have been researched and advocated as a positive innovation (Rutherford, 2013). One of the most popular options is the microblogging service Twitter first used in 2006 (Carpenter and Krutka, 2014). Originally this service was intended to provide text message length pieces of information as status updates, with no obvious value for education. However, as teachers have engaged with digital platforms they have found this can facilitate new participatory cultures reducing the physical or practical constraints present with more traditional professional development. As a result this has allowed for the formation of ‘affinity spaces’ and fostered valuable links between like-minded professionals (Jenkins, 2009). Furthermore, the value of developing social relationships for educators using Twitter for PD purposes has been highlighted (Forte et al., 2012).

To investigate the engagement of educators with Twitter, a study (n=755) was conducted in 2013, by researchers based in the United States (Carpenter and Krutka, 2014). Participants in the study were working in settings ranging from early years through to higher education, and came from different education systems around the world (although mainly based in the US, Canada, UK and Australia). The findings of the study suggested that Twitter is preferred, over traditional methods of professional development, as it is immediate, personalised and can ‘draw networks that are less restricted by time and place’ (Carpenter and Krutka, 2014, p.419). The study identified that the main reasons respondents engaged with Twitter was to share or acquire resources (96%), collaborate with other educators (86%), network (79%) or participate in Twitter chats (73%). Although this study did not consider the quality or outcomes of the PD activity other research has suggested that teacher use of Twitter for PD does align with characteristics of effective professional learning (Holmes et al., 2013).

One of the practical advantages of the Twitter platform is that the use of the hashtag system (Appendix 4b) such as #Edchat, #SLTChat (for senior leadership team members) and #Mathschat allows teachers and educators to share and collaborate in real time, or carry our retrospective searches and identify resources later (Jefferis, 2016). This content can even be accessed without signing up for a Twitter account. Due to the fact that educational content available on the internet is highly variable teachers must be capable of making a value judgement over the resources or information. This could be seen as a weakness, however it also presents the opportunity to learn and develop, as teachers become enlightened researchers in this digital space. Historically this would have been possible with access to school based resources depositories[20] but technology has broadened these opportunities considerably. In conclusion it should be noted that, although advancements in technology can facilitate access to development opportunities, the way teachers utilise these opportunities is crucial.

Teacher-led, teacher-initiated and grassroots professional development

The three examples discussed above are some of the better known, or most often utilised variations of PD that predominantly exist at ‘grassroots’ level. There are a number of others ranging from more open, organised events such as Pedagoo and BrewEd (very similar to TeachMeets) to ad hoc research groups between small groups of educators. This term ‘grassroots’ is used in a general sense to distinguish from PD dictated or organised by a local authority or school. However, some forms that intend to provide the teacher with ownership (explored in Chapter 6) may still be instigated or involve formal organisations, such as a University-led project utilising the lesson study approach (e.g. Hadfield and Jopling, 2016). One of the challenges of investigating these forms of PD is the ability to formally define or dictate where the teacher involvement, from an ownership perspective, begins and ends. These examples will be explored in greater detail later however it is important to acknowledge the changing nature, and landscape, or teacher PD.

[20] As a teacher I used the local authority school library service resource but many other teachers chose not to or were unaware of its existence. Digital technology has made such resources easier to access, although finding quality resources may now be more challenging as no one is curating the resources.

Key points emerging from literature

This chapter has reviewed key literature covering the contested definition of teacher PD and models that explore the very nature of PD. Next the historical evolution of formal PD activity, focusing primarily on the UK, has been discussed before introducing new directions in teacher PD. As a result of this analysis the following key points have emerged:

- A clear shared understanding and definition of what is meant by teacher PD is lacking.
- The current view of PD within education is simplistic with some models and activity not reflecting the complexity of this subject.
- Many modes of PD delivery continue to be 'top-down' or hierarchical.

Thus building on these, a further key point identified is:

- Informal or DIY PD is occurring but outside the traditional locus of influence or control, and academic research has not investigated this area in any depth.

The following key theme is present in the literature and reflects all the issues above:

- There appears to be is a general theme relating to control, autonomy and trust within teacher PD.

The focus of this doctoral research project

Although informal learning in the workplace (Eraut, 2004) has been a topic of interest for some time there is a paucity of published literature and research on informal professional development for teachers, especially when compared to formal development. Where published research exists it is usually context specific (e.g. Armour and Yelling, 2007; Carpenter, 2016b; Jurasaite-Harbison and Rex, 2010; Rutherford, 2013). Digital technology is providing increasing opportunities for teachers to access and enhance their professional development for example through use of video conferencing to support PLCs (McConnell et al., 2013). Alongside this teachers have changed the way they form professional networks and engage with professional development. As discussed earlier teachers are engaging with opportunities such as TeachMeets, PLCs, and increasingly through social media. Fraser et al. (2007) build on this by suggesting there is an

opportunity to research, and therefore better understand, episodes of informal learning for teachers, stating:

> *The nature, extent and role of informal incidental opportunities in teachers' professional learning are currently under-researched and therefore remain unclear (Fraser et al., 2007 p.166).*

Having reviewed relevant literature it appears that during the intervening decade this situation has changed little. Therefore this theme of teacher PD, beyond formal provision, provides the main focus for the investigations in this project.

DIY PD as a concept or phenomenon

As discussed earlier definitions for PD are varied and informal development activity led *for* teachers, *by* teachers, is not understood or clearly defined. It has been suggested that when teachers engage in informal learning they are:

> *…not merely recipients of knowledge. Rather, they organise the learning process and determine their learning goals and strategies independently (Richter et al., 2011, p.117).*

Evans (2018) highlights the nuance between various related terms, from other authors, such as 'covert PD' and 'incidental learning' (Brücknerová and Novotný, 2017). Tour (2017) is clear on what is meant by formal learning, differentiating between 'informal learning' and 'self-initiated learning' but fails to provide a clear definition for self-initiated learning. The term 'teacher-initiated' is used by Loewen (1996) when describing a programme of development within a formal school setting, but without involvement of school management. Carpenter (2016a) utilises the terms 'self-directed', 'self-guided learning' and even 'teacher-powered PD', giving examples, but again does not provide a concrete definition. Whilst discussing the use of Twitter for PD purposes Forte (2012) uses the term 'grassroots' without defining what this means. The lexicon in this area, Evans also argues, has widened to include terms such as 'situated' or 'in-situ' learning (Evans, 2018). Rogers (2014), whilst considering adult learning in general, provides a far clearer distinction, using the terms 'formal', 'non-formal' and 'informal', adding in further classification in the form of 'self-directed', 'incidental' and 'unintentional' (or unconscious) learning. Evidently definitions and terminology in this area are far from clear. Furthermore, there is minimal

agreement around the influencing factors or activities associated with these definitions.

Having reviewed the wider literature, none of these terms seem suitable for the topic under analysis in this study. During discussions with fellow professionals several alternative terms were proposed including ‘rogue professional development’ (Holme, 2015a) but this option includes an element of value judgement. The term rogue gives the impression of insubordination or teachers deliberately ignoring or rejecting formalised or organised systems. Meanwhile the term ‘grassroots’ suggests that only frontline teachers or junior staff are engaging with this type of PD, and this is not always the case. Due to the fact that teachers are taking ownership of their own professional development the most suitable term is Do-It-Yourself Professional Development (or DIY PD). This ‘DIY’ label has been applied in a range of contexts including academic research (Demski, 2012), educational journalism (Bloom, 2016) and by educators on Twitter (e.g. @mary_teaching). In addition a number of sources have utilised this term (albeit in different ways) in recent years including academic authors (Lloyd, 2010), teacher bloggers (Gurr, 2012) and in the educational press (Bloom, 2016). As a result this working term ‘DIY PD’ is utilised through the early stages of this report, with the caveat that issue of definition, terminology and labelling will be a key focus for this research project.

Hierarchical approaches to Professional Development

The earlier section covering historical development in teacher PD drew attention to the tendency toward top-down approaches. In addition the act of delivering formal PD often relies on an external individual or organisation; which may suggest an imbalance in the power dynamic. The delivery agents, usually occupying a position of power or responsibility, transmit learning to recipients which may explain the high proportion of ‘passive consumers’ (Joyce and Showers, 1988) within teaching. This link between formalised PD and a hierarchical or top-down approach will be briefly discussed in relation to models of PD. The Triple Lens Framework (or model, introduced earlier), has been applied to the analysis of several recent key educational initiatives in the UK (Fraser et al., 2007) including the National Literacy Strategy in England and the Cognitive Acceleration in Science Education (CASE) programme (Adey, 2004). From the analysis of these examples Fraser et al. (2007) propose that formalised

development is usually transmissive. In contrast informal learning may be more transformational *because* of a personal and social involvement. Fraser et al. (2007) draw the final conclusion:

> *Opportunities that allow greater ownership and control of the process are likely to attend to more facets of the personal and social aspects of learning and are therefore more likely to result in transformational professional learning for teachers. (Fraser et al., 2007, p.166)*

Further to this CPD opportunities have tended to come from local providers or local authorities (Lloyd, 2010) which may mean less control or ownership for individual teachers. These issues of autonomy and top-down approaches to teacher development are not new. In the 1990s practitioners were complaining that most CPD is 'done to teachers' often with school managers or educational administrators searching for a 'quick fix' (Scottish Office Education Department, 1995, p.9). Alongside this there is a suggestion that this approach requires the compulsion of teachers to engage with PD and is influenced, or even driven, by socio-political imperatives (Bevins et al., 2011) which may be an admission that PD can be driven by extrinsic motivational factors. The centralisation, or 'top-down', organisational approach was also reflected in data presented as part of Teaching Scotland's Future (Donaldson, 2010) which identified that the second most frequent form of CPD accessed was a local authority initiative (which 59% of respondents engaged with) adding that 'Most CPD is provided by local authorities and includes central[ised] training' (Donaldson, 2010, p.65). In comparison the same survey suggested only 7% of respondents had independently undertaken accredited further study adding that a 'wide range of national and local organisations provide CPD for teachers.' (Donaldson, 2010, p.65). This seems to suggest that this hierarchical approach is not only the accepted norm, but also the default option for professional development in Scotland.

Stepping back to take a wider view of education in Scotland there appears to be a conflict between granting greater autonomy to teachers, allowing them to take control of their attitudinal and intellectual development, and the objectives of more administrative bodies (such as Education Scotland, the GTCS, Local Authorities and school management teams) who either control or are heavily involved in teacher professional development. This conflict may simply be a reflection of the

uncertainty surrounding the purpose and direction of teacher PD in general. Within Scottish Education, however, the International Council of Education Advisors recently drew attention to an apparent move from a more holistic, or learner-focused approach, to a more measurable approach (International Council of Education Advisors, 2017). This issue of a need for control versus a desire for autonomy and trust, will be returned to later and discussed as a key theme (Chapter 6).

Having reviewed the key points emerging from the literature review the next two chapters (Chapters 3 and 4) will introduce the methodology and methods. However, before moving on the final section of this chapter will consider the theoretical framework which will be utilised in the later analysis.

Key educational theory as framework for analysis

This research project will utilise a theoretical framework or 'lens' informed by my own personal identity (Gee, 2000). This was briefly introduced in the preceding Personal Justification Chapter and the application of this, in respect of ontology and epistemology, will be covered when introducing the wider research methodology (Chapter 3). The subsequent sections of this document will briefly introduce some of the theoretical concepts that are used in the later analysis and identify how they are relevant to the topic of teacher PD.

Banking model of education (Paulo Freire)

There are parallels between the ethos behind traditional transmissive, output focused teacher PD and the concept of a 'banking' model of education (Freire, 2000). This is relevant on several levels starting with the assertion that models for professional development often focus on the practical elements of teaching and on the facilitation of knowledge transmission, a term also used by Kennedy (2005). This idea of banking has implications beyond the recipients of the teaching (i.e. the pupils or students) but also for the teachers as learners. Of course this may be positive as, from a historical perspective teacher PD was well received especially when it provided teachers with 'top tips' and new resources (Miller, 2015). This approach may have been fulfilling a need, however Freire argues that the concept of 'banking' in learning can have long-term detrimental effects:

> *They [recipients] … have the opportunity to become collectors or cataloguers of the things they store. But in the last analysis it is the people themselves who are filed away through lack of creativity, transformation, and knowledge in this (at best) misguided system (Freire, 2000, p.72).*

Interestingly the word ‘transformation’ carries positive connotations and matches the categorisation of teacher PD, proposed by Kennedy (2005), which includes practices that support a transformative agenda, even though they may involve conflict and debate. It has been argued that the banking system in education can result in ‘miseducation’ (Irwin, 2012). The banking concept is built on the idea that the individuals or groups with power are the ‘oppressors’, and therefore work using a ‘paternalistic social action apparatus’ (Freire, 2000, p.74). This then connects education to wider socio-political issues, specifically power and control (which are discussed in the emergent themes chapter). Developing this point Freire begins to introduce the suggestion that the recipients are being subjugated, arguing that banking education ‘anesthetizes and inhibits creativity’ and ‘attempts to maintain the *submersion* of consciousness’ (Freire, 2000, p.81).

Returning to the idea of transformative practice, this requires teachers to be self-aware which leads into another key theory, also proposed by Freire, that of ‘conscientization’.

Conscientization (Paulo Freire)

As discussed earlier the influential report Teaching Scotland’s Future (Donaldson, 2010) identifies that teacher PD is often delivered through ‘force feeding’, lacking a ‘pull’ from teachers. If typical programmes of PD can be based on banking models then teachers may be engaging reluctantly or being coerced or manipulated into participating. However, an alternate explanation may be that they are completely unaware there is an alternative available to them, or unaware they *can* challenge the status quo. The individual’s perception will be highly relevant and is echoed when Freire considers, in the Hegelian sense, the ‘conception of perception’ which can liberate by helping individuals to value their freedom (Irwin, 2012, p.38). This concept is termed conscientização which in Freire’s native Portuguese translates to conscientization.[21] Using the example of his work with students in adult literacy classes in Brazil, Freire argues that it was

[21] This anglicised version ‘conscientization’ will be used throughout this report.

important that the subjects were introduced to ‘the democratization of culture’ (Freire, 2013, p.41). Applying this idea to teacher PD ‘culture’ may include groups of teachers at an individual school level or the entire education profession of a nation.

The importance of democracy is further explored by Freire by considering what occurs when democracy is subverted. In this case, amongst other consequences, is the potential for irrationality, rigidity, lack of openness, fear, oppression and ultimately the alienation of a nation (Freire, 2013). Applying this lack of democracy to teacher professional development, could actively damage participants rather than enhance the situation. As teachers become more disempowered so they would have less interest or belief in PD, feeding a negative cycle. Alternatively, the feeling of empowerment, possibly when engaging with PLCs or through the democratising effects of engaging in social media (Jefferis, 2016), is encouraging teachers to be more conscious and is having a positive feedback effect.

A key part of developing empowered groups, within the concept of conscientization, is the development of leaders. However, this raises a problem once individuals from the target group are selected to lead, from amongst their peers. Although it is assumed, they will promote the idea of community by promoting this concept from within, once back in their own community, these leaders may use their new skills and resources to preserve their position and inadvertently (or otherwise) oppress their peers (Freire, 2000, p.142). This potential contradiction, whether occurring consciously and unconsciously, will have significance to professional development, especially when learning takes place informally. Those who find themselves in this position may require a strong degree of self-awareness, so as not to simply replicate the former situation, albeit with new individuals. Therefore, for all the members of a group to effectively achieve conscientization there will be a requirement for mutual trust; the importance of which will be explored later in this project (Chapter 6).

Engaged pedagogy (bell hooks)

The Freirean theory of conscientization has been examined and built on by bell hooks (Generett, 2009) and linked to the theory of engaged pedagogy (hooks, 2014). In particular, hooks has challenged the traditional view that education

should involve the transfer of knowledge, thus questioning the banking approach to education. Specifically, hooks considers the idea of self-actualisation which itself is transformational. This reflects the more advanced models of PD categorised by Kennedy (2005) and the attitudinal components of the Evans model (Evans, 2014). There is also a minor but significant difference between conventional critical pedagogy and the theory of engaged pedagogy proposed by hooks. Engaged pedagogy requires the teachers and educators to commit to the process of self-actualisation which will promote their own well-being and in turn help them empower students (Generett, 2009). Drawing from personal experience the ideas recognised by hooks have helped me develop my own ability as a learner through a process of critical self-reflection (Pollard et al., 2014), and develop a critical understanding on my personal epistemic and ontological positioning. This has, serendipitously, formed a crucial part of my own professional development and allowed me to examine my approach to research and critically reflect on my own background and biases, as the vignette below illustrates.

One of the key themes that appears to permeate hooks' work is the idea that ownership of the educational process should pass from the teacher to the student. This also matches closely to Freire's idea of critical consciousness and both these theories could be used to better understand autonomy, and agency,

within education. This theme will be explored in detail later in this research project.

Deschooling (Ivan Illich)

In the same way the theories of Freire and hooks inform each other there are links between the work of Freire and Ivan Illich as both 'provided a radical critique of traditional education' although their proposed solutions differed (Roberts, 2007, p.505). An area where their analysis is closely aligned is Freire's concept of massification and Illich's 'deschooling' where the very notion of formalised and universal schooling is challenged (Illich, 1971). Illich's theory may have implications for formalised, especially accredited, PD as he argues 'neither learning nor justice is prompted in schooling because educators insist on packaging instruction with certification' (Illich, 1971, p.11). This challenges the assumption identified earlier, in Scotland and ITE institutions, that certified Masters-level learning should be the ultimate aim, although this certification element may not be the primary motivating factor for teachers engaging in Masters' study (Beresford-Dey and Holme, 2017). And so this view may require a more nuanced analysis.

There is also an argument that schooling alienates the children in our society as infants and adults are not part of this 'world' (Illich, 1971). Furthermore it could also be argued that once children have been 'schooled' they cannot avoid living out the ideals within wider society. This analysis has links to the ideas of Marx and hegemony, in that there is some greater power, or group, exerting control over the wider populace as it serves their purpose. Illich (1971) reaches the ultimate conclusion that schools result in society being divided and 'education becomes unworldly and the world becomes non-educational' (p.24). Applying this idea to teacher professional development, the conclusion could be that all such activity is counter-productive, and therefore not worth investment in resources at all. This would undoubtedly be extremely controversial amongst the various stakeholder organisations ranging from schools, to universities to government itself.

An interesting inclusion in the work of Illich, written over four decades ago, is his consideration of potential solutions to the issues with a 'schooled society'. Illich appears to predict some of the developments within education, only just being

realised today. As an alternative to a formal and certificated education system, shifting the focus from schooling to learning, Illich suggests ‘we can depend on self-motivated learning instead of employing teachers to bribe or compel the student to find the time and the will to learn’ (Illich, 1971, p.73). He advocates that networks or learning webs will allow people of all ages to become owners of their own learning. Specifically, for learning-webs to succeed, four key elements are required, namely:

1. *Access to educational objects (by way of a reference service).*

2. *Skill exchange (where individuals can list skills and contact details so they can be approached by learners).*

3. *Peer-matching (a communication network so required learning activities can be listed by potential participants).*

4. *Access to educators at large (who would include professionals, paraprofessionals and freelance educators, again by way of a reference service) (Illich, 1971, p.78-79).*

This proposed system is highly reliant on two key elements, easy access to information, and teacher ownership over the process. Illich appears to be advocating for a learner-centred education system and, although he is considering education in general, there are obvious parallels here to what would today be recognised as Teacher Learning Communities (TLCs) (Leahy and Wiliam, 2012). Possibly the most interesting observation is that the internet, digital technology and social media now provide the modern day teacher with an opportunity to access the networks exactly as Illich was advocating. The role of technology, within informal or teacher-initiated PD, is one that will be considered later.

Summary of selected critical pedagogists

The ideas introduced in the previous section clearly have various points of commonality. For example, Freire suggests that the banking model will ultimately reduce subjects’ ability to think freely (Irwin, 2012) whereas hooks urges educators to pursue self-actualisation (Generett, 2009). As there are connections between these themes and conscientization (Freire, 2013) and engaged pedagogy (hooks, 2014), they will be used to analyse and make sense of the results and findings given the focus of the current study. Although these theories

seem applicable, given the earlier discussion of informal teacher learning and PD, it is important to acknowledge problems associated with them and these will be considered next.

Criticisms of critical pedagogy

The theorists and theories identified here are clearly informed by wider socialist or Marxist philosophies. Approaching the same topic of teacher professional development from neoliberal or libertarian perspectives would result in an entirely different analysis. It could be argued that top-down professional development programmes are required to serve current society. Therefore, if education systems represent the host society and vice versa, teachers should simply accept this, related criticism may be that, assuming there is a problem with the status quo, society itself must change before any change to an education can be enacted. This view would be challenged by many within the academic community who regard teachers as having a responsibility to act as agents of change, in particular through their own professional development, whilst questioning the values that should be represented (Watson, 2014).

A further problem centres on the patriarchal nature of Freire's work. At times bell hooks identifies the inherent patriarchal voice, and potentially sexist language adopted by Freire, especially within his early work. Despite this criticism hooks explains that the model of critical pedagogy, proposed by Freire, accepts, or even encourages, a critical examination of this particular flaw in his work (hooks, 1993). In other words Freire would expect people to challenge his ideas, as much as any others. This has implications for themes explored much later in this study including self-awareness and transparency. Others who would defend Freire on this issue argue he is simply using the tools at his disposal and his language choice reflects the time when he was writing (McLaren et al., 1993).

Turning to the theories of Illich it could be argued that there is no problem with school or education at all, but society itself, and schooling simply reflects society. Illich himself argues that school is a social problem and is being attacked from every direction. He goes on to suggest that a fundamental change in schooling, and education, would challenge the survival of the political order (Illich, 1971). If this is accepted then it could be argued that attempts to change or develop society, using a single element within it, will ultimately prove futile. If this is the

case then theories of critical pedagogy could, at best be irrelevant or at worst counterproductive, ironically a concept initially proposed by Illich (1975). Further to this, during the past two decades, the ideas of Illich have been seen to be old or outdated (Zaldívar, 2015) and this could be a criticism of critical pedagogy in general, with its roots in traditional Marxist theory, as socio-political influences in current society are complex and multi-faceted.

The ultimate criticism that could be levelled at both Freire and Illich is that, in their seminal writing,[22] they challenge the status quo within education, suggesting it is hierarchical and prescriptive, but go on to proceed to offer their own alternative systems. They seem to suggest that *they* have the prescribed solution to the problems of an already prescriptive system; but the alternative of offering no solution would leave them open to further criticism. This problem may be an unresolvable paradox and may be one that all researchers using critical pedagogy, especially in the field of education, simply need to accept. In contrast hooks, whilst suggesting transgression, does not advocate *how* to transgress and so may provide a less value laden theoretical lens for analysis.

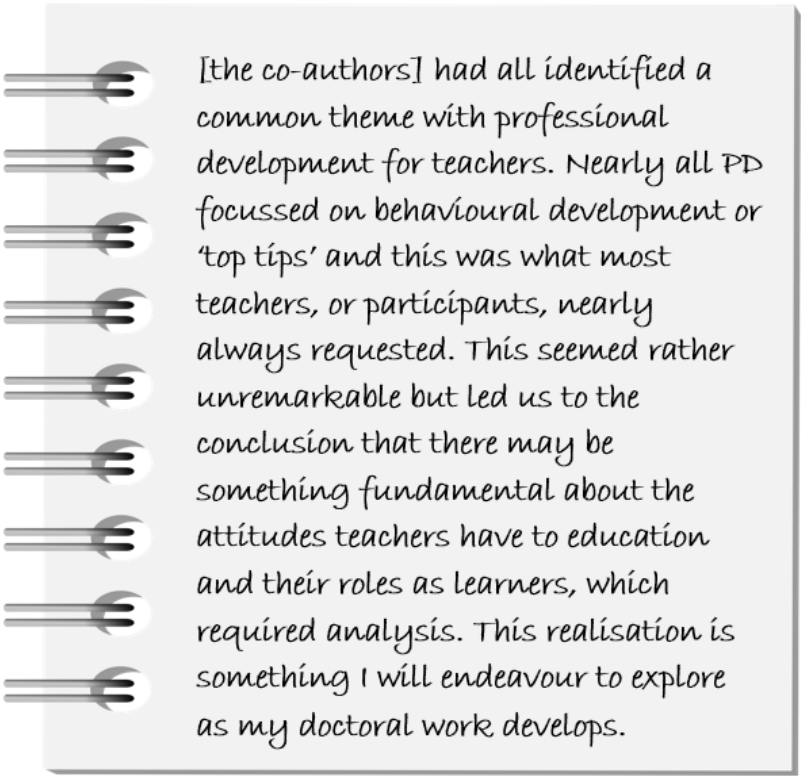
Personal reflection on review of literature

Having reviewed the literature on teacher PD, a common theme emerges of the transmissive (Kennedy, 2005) and practical nature of PD, with control being beyond that of the beneficiary teacher. This was mirrored when, during the final drafting stages of this section, I was simultaneously working on a chapter of a book, with colleagues, on professional development of adult learners (Gibson et al., 2017). Two of us contributed different sections but identified the same key issue, albeit from different perspectives. I observed that professional development has focused predominantly on practical or behavioural activity. Simultaneously, my colleague recognised that the most frequently requested development activity from teachers was ‘top tips’ – further supported by anecdotal evidence (Miller, 2015). It could be argued that this reiterative situation is simply inherent to education and therefore always will be the case.

This desire, or ‘pull’, from teachers for behavioural or practical PD (Evans, 2014) is worthy of greater investigation. The vignette below shows how my own

[22] Illich in Deschooling Society and Freire in Education for Critical Consciousness.

scholarly activity (collaborating on the book chapter) led to this conclusion and how teacher attitude toward learning may be a crucial factor.



The final conclusion to the literature review relates to how I approach my own development and learning. I will consider my *own* personal and professional development as a learner, not just from a behavioural or practical position, but crucially from an intellectual and attitudinal one (Evans, 2014). As a result this has become one of the aims of this project and helped me work toward achieving greater agency (Priestley et al., 2012) which will clearly have impact on the development of my own epistemic and ontological position. The next chapter will introduce the wider research methodology for the study, including a consideration of epistemology and ontology.

Chapter 3 - Methodology

Introduction

The methods adopted for the empirical stage of this project involve an inductive data collection process which, as Strauss and Corbin (1998) propose, the researcher begins with an area of study from which findings and theory emerge. This allows findings to be identified from the significant themes existing within the raw data (Thomas, 2006). The methods include an expert survey method (Sarantakos, 2012), with online questionnaires completed by key stakeholders[23] henceforth referred to as experts (although these are often termed panellists in Delphi literature). The details of these research methods and the specific research questions are discussed in the subsequent Methods chapter but first the wider issues relating to the bricolage methodology and ontology and epistemological factors are considered. Full ethical approval was given for this study (Appendix 5). However, due to the multi-stage, iterative methodology ethical issues are discussed in the data collection chapters, before the findings and analysis.

The literature review submitted for upgrade review (Holme, 2015b) identified that a bricolage methodology would be adopted. This allowed suitable methods to be adapted to fulfil the wider research aims. When using the Delphi method it has been suggested that researchers could 'incorporate the Delphi method into *their* research repertoire' (italics added, Okoli and Pawlowski, 2004, p.15-16) and this gave further support for the selected method, within the wider methodology.

The nature of methodology

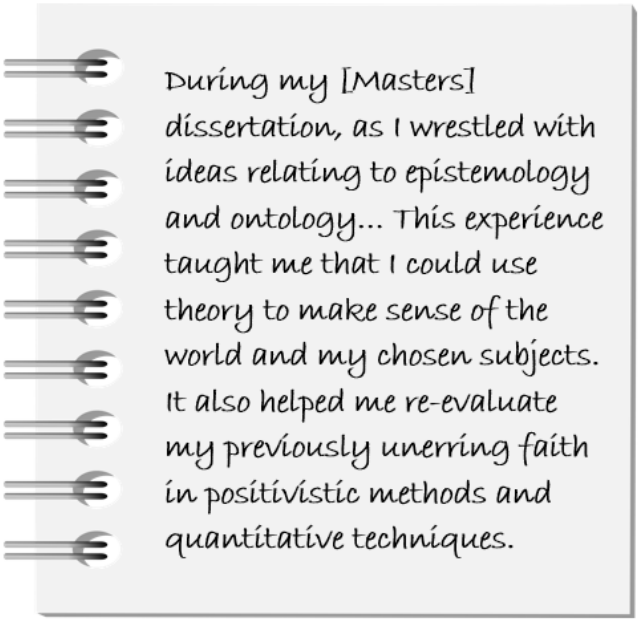
The methodology for any formal study or piece of social research is usually prepared and finalised before any research is started (Denscombe, 2014). The methodology for a project should provide the starting point for the approach which is made up of 'theories, ideas concepts and definitions' and essentially providing 'the basis of a critical activity' (Hart, 1998, p.28). It is this that informs the actual research methods or tools. An alternative way to consider methodology is that it is the step before the design of processes or instruments (the methods) informed by researcher ontology and epistemology (Sarantakos, 2012). Therefore, the

[23] The explanation of expert panellist selection is provided in the relevant methods section (Chapter 4).

personal ontological and epistemological positions which are applied to this research will be now be discussed.

Ontology and epistemological position

Ontology is concerned with the 'study of being' and so it links closely to personal values (McNiff and Whitehead, 2016, p.27) whereas epistemology is concerned with the manner in which 'we understand knowledge and how we come to acquire and create knowledge' (McNiff and Whitehead, 2016, p.31). This was something I learnt a great deal about during my own Masters' degree study, as the vignette below shows, and have continued to learn more about. The current project was conducted using a generally interpretivist approach, despite my own personal inclination toward the positivistic or realist approach.



As a social science researcher it is essential to consider one's own personal ontological and epistemological position (Cohen et al., 2013). Having migrated from the natural sciences (at undergraduate level) to the social sciences (in my current professional role) I often consider the differences and tensions between these. For example, I am interested in how we may use positivist methodologies such as randomised control tests in education, and I think the ideas of the popular science writer Ben Goldacre (2013) may have some merit. Yet, I recognise the risks of applying the positivist paradigm, common in natural sciences, to the social science of education. As a result, I acknowledge that my prior experience and associated preconceptions, possibly influenced by my own cultural habitus (Bourdieu, 1990), must be 'kept in check'. Related to this, and as a developing

social science researcher, I must be aware of a ‘tendency of students and graduate programs [sic] to still consider themselves as QUALS or QUANS’ (Denzin, 2010, p.423). Therefore, for the purpose of this study I have selected methods based on need rather than on personal preference. This means that the overall methodology for this doctoral project is described as mixed methods (Edmonds and Kennedy, 2017) in the general sense.

The explicit recognition of my ontological and epistemological position will contribute toward maintaining objectivity. I will take this theory and apply it to my research practice with the aim of maintaining a reflective vigilance. This type of praxis is central to the theory of critical pedagogy (McLaren and Da Silva, 1993), which is being used as a theoretical lens, which enhances the relevance for the current research project.

Bricolage

The methodology and resultant research methods in the current study follow a broadly inductive process whereby findings and analysis inform later stages of the research process (Rovai et al., 2013). Given the complexity of the research topic this is investigated using the bricolage approach. This research concept dates back to the work of Claude Lévi Strauss (1962) who utilised the concept of an amateur handyman (bricoleur), completing odd-jobs, but significantly was not a qualified craftsperson. Lévi Strauss went on to compare the bricoleur with traditional scientists proposing:

> *…the scientist [is] creating events (changing the world) by means of structures and the ‘bricoleur’ [is] creating structures by means of events. (Strauss, 1962, p.13)*

The importance and complex relationship between issues such as epistemology, methodology and research methods has led to a greater significance being given to mixed methods approaches in social science. In turn these conditions have led to the increased relevance of bricolage as an approach. Building on the early ideas of this approach and applying it to research practitioners leads to the conclusion that ‘the jack of all trades, produces a bricolage based on the use of many different interpretive practices and methodological tools’ (Denzin, 2010, p.423). Although this may be seen as a criticism for some areas of study it was seen as an advantage as the topic under investigation is multi-faceted.

This is further supported when considering my own metaphorical toolkit as a researcher. As a former primary teacher I view myself as a generalist, rather than a specialist; the bricolage approach allows me to apply associated skills and adopt various methods dependent on the research requirement. This project draws from a variety of fields including: pedagogy, psychology and sociology. This combination could lead to the researcher only gaining a basic understanding of concepts and result in superficial analysis of results. Even so, the use of bricolage requires the bricoleur to 'become an expert on the relationships connecting cultural context, meaning making, power and oppression within [ordinary] disciplinary boundaries' (Kincheloe, 2001, p.684). Therefore this approach demonstrates rigour through cross-checking (for example through the reflexive diary) and represents a form of methodological triangulation (Wellington, 2015). This ensures a rigorous understanding of influential factors allowing me, as a researcher and a learner, to develop a broad and deep understanding in various fields of research.[24] This fluidity also presents a chance for me to learn incidentally and accidentally (Rogers, 2014).

The importance of biography within bricolage is of particular relevance to this study and, as already identified (using the illustrative vignettes and reflexive diary), there is an important subjective biographical element to the topic of teacher PD. Lévi Strauss (1962) highlighted how the bricoleur goes beyond the objective, scientific interaction and analysis stating:

> *…he [or her/they] 'speaks' not only with things, as we have already seen, but also through the medium of things: giving an account of his personality and life by the choices he makes between the limited possibilities. The 'bricoleur' may not ever complete his purpose but he always puts something of himself into it (Strauss, 1962, p.14).*

Starting from this point it was planned that the various participants, and researcher, would develop understanding of professional development through engagement with this research study, which further facilitates mixed-methods paradigmatic triangulation (Pine, 2008), again enhancing the validity of findings and results.

[24] I have also enjoyed this process of 'snowballing' to new and varied topics, and now realise this as a form of informal, accidental PD. This issue of learning tangentially presented challenges, and opportunities; the emergent themes (in Chapter 8) capture some of these.

The interdisciplinarity of bricolage

An additional justification for the bricolage approach is that this study requires a degree of consideration of biographical narrative for those involved, including myself as researcher and learner during execution of this study. This complements the proposed methodology as 'bricolage, of course, signifies interdisciplinarity' (Maxwell, 2012, p.680). However, this characteristic may also be a source of criticism, namely that it is 'a concept that serves as a magnet for controversy in the contemporary academy' (Maxwell, 2012, p.680). Nevertheless this also provides an argument for adoption of this approach especially as I am conscious of my personal inclination to question, and even challenge, accepted ideas illustrated in the vignette below.[25] This theme of authority and power, specifically in relation to the issue of accountability and trust, will be investigated in the later research stages (Chapters 6, 7 and 8).

One criticism of the interdisciplinary nature of bricolage is that it could be seen as being simplistic and the incorporation of unknown or new fields may not be justifiable. As a result, Kincheloe (2001) argues that, to successfully utilise this

[25] With the example of 'Brain Gym' in the vignette I knew this subject well, and believed that I had a greater understanding of why it was problematic, mainly due to the pseudo-scientific content. It had been recommended to me during my training year and I had investigated the subject but despite this I still felt nervous when questioning the authority figure - the local authority trainer.

approach bricoleurs must develop the conceptual tools and clearly establish boundaries. The addition of the autobiographical element to the overall study (represented by the reflexive diary) allows me to reflect on the paradigmatic ethos of utilising bricolage. In addition the ability for this method to incorporate and analyse nomothetically and ideographically (in the psychological sense) adds further justification for the selection of bricolage (Luitel and Taylor, 2011).

One final, serendipitous, justification for adoption of a bricolage method is that the subject of focus for this study is DIY professional development; the term 'bricolage' was adopted from the French word for Do-It-Yourself and refers to how researchers can use whatever resources are at their disposal to achieve whatever outcome is desired (Weick, 1993).

Methodological considerations with the Delphi method

Relating the bricolage methodology back to the selected Delphi method (Linstone and Turoff, 1975) the consultation of experts (details provided in the subsequent Methods Chapter) with substantial knowledge and experience in the research area, even including unpublished views (Sarantakos, 2012) is crucial. In the current study this is particularly relevant as experts come from a range of backgrounds and are not just academics or educational leaders. Practical justification for the specific Delphi method are discussed later (Chapter 4) but first the methodological rationale will be considered. The reason for considering methodological issues first is because there must be a sound justification for the general or broader principles before the practical issues of methods are discussed (Cohen et al., 2013; Kothari, 2004; Wellington, 2015).

Philosophical underpinning of the Delphi method

The philosophical understanding and interpretation of the wider methodological framework will influence the suitability, delivery or execution of the Delphi method. This is because an individual or group's philosophical system may greatly impact on the way in which they may respond to the statements proposed within the Delphi study. In the seminal text (Barnes and Mattsson, 2016; Pare et al., 2013; Rowe and Wright, 2011) *The Delphi Method: Techniques and Applications* the authors Linstone and Turoff (1975) argue that the philosophical foundations must be explicit, in the way that quantum physics underpins the subject of physics in natural science. They go on to consider various grand theorists (including Kant

and Hegel) and how their perspectives may influence the way the Delphi method is interpreted. For example, consideration of the Kantian inquiry system (Linstone and Turoff, 1975) suggests the theoretical framework and perceptions of actual reality are dependent on each other. This is of importance when considering the Delphi method as there is an attempt to predict or isolate a single truth which is based on different expert opinions. As a result this approach may not reach a consensus. However, identifying a lack of consensus or divergent views can still be of value (e.g. Vosmer et al., 2009). Crucially in the current study the potential for divergent or alternative views is important given the rogue or radical nature of the topic and acknowledging these potentially dissenting ideas is central to this methodological approach.

Critical pedagogy and the Delphi method

In the earlier literature review chapter various critical pedagogists (Freire, hooks and Illich) and associated theories were discussed. Using theories from critical pedagogists to frame or understand the Delphi method it is possible to both support, but also challenge this approach. Application of Freirean theory to the Delphi method is of relevance because placing equal value on respondents relates to the concept of participatory democracy where 'the decentralization of political power implies a need for effective two-way communication' (Linstone and Turoff, 1975, p.486). In direct challenge to this it could be argued that by calling on experts this method will reinforce or maintain the status quo,[26] which Freire argues (1985) is the aim of the elite. The participant group in the current study undoubtedly represent some form of elite (especially those from academia) but the mixed nature of the target sample and anonymity of each expert panellist reduces this risk. Furthermore the objective of gaining or retaining power is not necessarily applicable to participation in this study. Within the Delphi method the power is ultimately held by the director (in this case myself as the researcher). Of course it could be argued that in the current study I may also be less expert than the panellists, so hold less power (in the Freirean sense).

An important aspect of the Delphi method is that by using technology it has the potential to widen participation thus democratising research through enhanced communication. The proposed benefits of a 'feedback-and-participation' system

[26] The risk of the experts (or GOBSATs) simply representing the hegemonic status quo will be discussed in Chapter 4.

were first discussed over 40 years ago (Sheridan, 1971) but are even more relevant today. This has interesting echoes with the proposals of Illich (1971) (introduced at the end of Chapter 2) relating to learning webs, and Professional Learning Communities (which will be introduced later). The use of the Delphi method involves formation of a research web or community in the form of the expert panellist group. Within this group the participants also have the opportunity to transgress from the socio-cultural norm and raise otherwise unexpected suggestions and so the work of bell hooks (Generett, 2009) provides a valuable context for this analysis. Moving on from methodology the next section will explore in detail the practicalities of Delphi method and associated considerations.

Chapter 4 - Methods

Scoping DIY (or teacher-initiated) PD

In the very broadest sense the current study is a form of scoping study. This term often relates to systematic reviews and can take the form of a formal review of published data and research as is common in the health sector (Ridley, 2008) and in particular in medical science such as with the Cochrane Review process (Badger et al., 2000). Scoping studies can also be applied to reviewing literature but this has been giving less attention (Arksey and O'Malley, 2005). A third variation is to apply the principles of a scoping exercise to empirical data collection.

In general, the purpose of scoping is to map the key concepts that underpin an area of research but can also provide information on the type of evidence available. Although this method may be utilised as part of a wider, multi-stage research project, it can also be used as an individual study. Additionally this mapping may involve contact with subject area experts (Mays et al., 2001). The benefit of scoping studies is that they can provide a deeper understanding of a single issue due to their ability to consider ideas and views at different levels presenting a multi-layered analysis. When scoping studies have been utilised in the field of education typically these consider a specific initiative or intervention followed with an evaluation stage (e.g. Forsman and Vinnerljung, 2012). In contrast they have been utilised more often in medical education, for example Lin et al. (2015) and Thellesen et al. (2015). There are examples where a subject, such as science education, is scoped and then within this wider topic teacher professional development has been considered (e.g. Murphy and Beggs, 2005).

As explored earlier DIY PD is, by its nature, likely to be informal and so may lack any coherent structure. During initial consideration of terms, descriptions such as ‘rogue’[27] were proposed, intimating that it digresses from established systems or traditional locus of professional development activity. This may also mean that the participants would be wary of researchers and so gaining an authentic view

[27] This term was suggested by an academic during a workshop seminar at the UCET conference in 2014.

may be problematic. Despite these concerns if this area is to be better understood formal research is essential.

The initial stage in this project scoped or mapped out the proposed field of DIY PD within education and involved a process of searching relevant sources, including informal and personal contacts, to establish what examples of DIY PD exist on a local and International level. This deepened contextual understanding and aided early categorisation of different manifestations of this phenomenon, including parameters such as location, participants and examples of activity involved. The data collection process, which will be explained subsequently in detail, used questionnaires with key stakeholders to investigate informal or teacher-initiated professional development and followed a variation of the Delphi method (Linstone and Turoff, 1975) with initial results informing the later stages of the investigation.

Research questions

Based on the result of the literature review the following key question was developed:

> ***RQ1: Is the proposed concept of DIY PD a valid concept and a discrete category of teacher PD?***

The following question and sub-questions were then investigated:

> ***RQ2: What are the key characteristics and features of DIY PD activity?***

Sub-questions used to investigate RQ2 explore the characteristics and features, as well as factors and activities, were:

> *SQ1: What are the key characteristics and features of DIY PD activity?*
>
> *SQ2: What are the activities and delivery factors associated with DIY PD?*
>
> *SQ3: What additional emergent themes (resulting from the findings) may inform future investigation and understanding of DIY PD?*
>
> *SQ4: What are the personal implications (for me as a researcher) of engaging in this research, utilising DIY PD?*

Introduction to the Delphi method

The Delphi study approach, which utilises experts, dates back as a research method to the 1950s (Okoli and Pawlowski, 2004) and although a significant increase in use occurred in the early 1970s this was mainly in government planning and business and industry contexts. The original application of this method was militaristic (Dalkey et al., 1969) and was developed by the RAND corporation specifically to forecast the impact of technology on warfare (RAND Corporation, No date). RAND define it as:

> *The method entails a group of experts who anonymously reply to questionnaires and subsequently receive feedback… after which the process repeats itself. The goal is to reduce the range of responses and arrive at something closer to expert consensus (Rand Corporation, No date, no page).*

Despite this clear general guidance from Rand the Delphi approach is still a contested method with a variety of explanations or interpretations. In the seminal text on the approach, Linstone and Turoff suggest that as soon as an explicit definition was adopted for the Delphi method then an example study would go on to challenge the definition (Linstone and Turoff, 1975) and this is an important consideration for any researcher. However, within the current study this can be justified given the bricolage methodology approach, which was discussed earlier.

Since initial development the Delphi method has been adapted and utilised in a wide range of disciplines beyond the military including healthcare, business, engineering, information technology and education (Table 1). The use of the Delphi method for information systems research has been utilised for two distinct purposes; firstly forecasting and prioritisation of issues, and secondly concept or framework development (Okoli and Pawlowski, 2004). The current study has similarities to this as it investigated a potentially novel concept or ‘what does not already exist’ (Skulmoski et al., 2007, p.2). Okoli and Pawlowski (2004) state applying this method for conceptual development involves a two-step process which begins with identification or elaboration of the concepts followed by classification or taxonomy development, and so this general approach was adopted. In addition Skulmoski et al. (2007) suggest the Delphi method is suitable for Masters’ or Doctoral students undertaking research, which is particularly relevant given the current study is part of a professional doctorate project.

The Delphi method is conducted over two or more rounds exploring areas where lack of clarity exists (Iqbal and Pipon-Young, 2009). It can be conducted in a conventional sense, usually using written questionnaires with time between analysis and iterations, or in real-time, using electronic means (Linstone and Turoff, 1975). The use of real-time Delphi study has been facilitated by recent advancements in technology with software simplifying the process and organisations providing support (Gordon and Pease, 2006). The advantage with this is that participants can react to responses as they are completed, although some challenges also arise from the synchronous nature of this approach (Kilburn and Earley, 2015) especially if investigating fast evolving concepts. The relative infancy of technology to support real-time Delphi studies (Gordon and Pease, 2006) has meant more development is required to support administration and only very recently (with tools such as the Bristol Online Survey service)[28] has this become available to university-based researchers. With this is mind the current study included a conventional Delphi method whilst utilising digital technology to administer and deliver questionnaires (justified subsequently later in this chapter).

As the Delphi method has not been used often in educational research a review of literature was conducted and a summary of papers was compiled as a reference document and is presented on the subsequent pages (Table 1). This process served multiple purposes. Initially this developed an understanding of the principles behind the Delphi method, and how it could be adapted. Secondly examples of studies gave valuable contextual information that could be applied in the current research project.

[28] Bristol Online Survey (since then renamed Online Survey) was utilised in the current project to administer the Delphi study.

Table 1: Summary of Delphi method sources

Author/date & paper/source name	**Type of source**	**Summary/comments**
Linstone & Turoff (1975) The Delphi Method	Methodological handbook	Seminal text and 'bible' of Delphi study methods and methodology.
Cuhls (no date) Delphi study	Methodological	Guidance for completing Delphi studies.
Murry & Hammons (1995) Delphi: A versatile methodology for conduction qualitative research (in The Review of Higher Education)	Methodological	Guidance for completing Delphi studies.
Iqbal (2009) The Delphi Method	Methodological	Guide to utilising Delphi method, aimed at psychologists.
Clayton (1997) Delphi: a technique to harness expert opinion	Methodological	Very useful guide, references other sources including Dalkey & Helmer (1963).
Goodman (1987) The Delphi Technique: a critique	Methodological	Useful text but older, includes examples of Delphi studies.
Hsu & Sandford (2007) The Delphi Technique: Making sense of consensus	Methodological	Covers subject selection, time, weaknesses, and expertise distortion.
Hasson et al (2000) Research guidelines for the Delphi study	Methodological	Issues, sampling, data collection analysis, resources, ethics, reliability/validity.
Fink et al (1984) Consensus methods: Characteristics and guidelines for use	Methodological	Covers nominal group technique, Glaser state-of-the-art approach.
Powell (2002) The Delphi technique: myths and realities	Methodological	Covers keys issues including validity and 'goodness' also stresses opinion not fact.

Author/date & paper/source name	Type of source	Summary/comments
Green (2014) The Delphi Technique in Educational Research	Methodological	Covers issues including rating scale development.
Wagner, Lau, Lindeman (2010) Multiple informant methodology: A critical review	Methodological including quantitative	Discussion of interrater agreement and interrater reliability.
Okoli & Pawlowski (2004) The Delphi Method as a Research Tool	Methodological guide illustrated with example from sub-Saharan Africa e-commerce	Clear process explanation for Delphi including Knowledge Resource Nomination Worksheet, reference to theory building and contributes to construct validity. Reference to bricolage and including Delphi in the wider research repertoire.
Gordon & Pease (2006) RT (Realtime) Delhi: An efficient, "round-less" almost real time Delphi method	Methodological illustrated with empirical example (Millennium Project)	Seems effective but only 'proof of concept' prototype exists so far. Practical use requires greater investigation.
Rayens & Hahn (2000) Building consensus using the policy delphi method	Methodological (political administration context)	Addresses policy version of Delphi. Includes case study of state legislators' views of tobacco.
Franklin & Hart (2007) Idea generation and exploration: Benefits & Limitations	Methodological & empirical	Policy Delphi and example, explores changes as they occur.
Day and Bobeva (2005) A generic toolkit for the successful management of Delphi studies	Methodological	Includes taxonomy and stages in the model including detailed implementation process and 'toolkit'.

Author/date & paper/source name	Type of source	Summary/comments
Streveler et al (2003) Using Delphi study difficult concepts thermal transport science	Empirical (engineering context)	Provides some background on theory, applied to understanding of essential concepts in engineering.
Pinnock et al (2012) Prioritising the respiratory research needs… (e-Delphi exercise)	Empirical (health context)	Some comments on methods – includes limitations and process flow chart.
Sakhnini & Blonder (2015) Essential concepts of nanoscale science and technology (using Delphi study)	Empirical (education context, High School science teaching in Israel)	Investigated how to teach concepts in nanotechnology.
Schieber et al (2015) Integrating Multidisciplinary results to produce knowledge about physician-patient	Empirical (health care context)	Developed methodology based on Delphi including questionnaires and face-to-face element.
Kilburn & Earley (2015) Disqus website-based commenting as an e-research method: engaging doctoral and early career academic learners in educational research	Empirical – looking at method relating to online discussion for data collection and analysis	Utilises thematic analysis shows issues relating to learner engagement.
Williams & Webb (1994) The Delphi technique: a methodological discussion	Empirical – using Delphi to investigate how radiographers can effectively support students on clinical placement	Recommends how to address issues of reliability and validity.

Advantages of using the Delphi method

The main justification for adoption of the Delphi method is that it allows for joint understanding to be developed via the professional judgment of experts (Hasson et al., 2000). This is particularly relevant in decision making management functions which impact on the operation of the organisation but is reliant on ‘a level of human endeavour and intellectualising’ (Clayton, 1997, p.375) which go beyond daily or routine activity. This general principle can also be applied to development of ideas and theories or to explore concepts or phenomenon such as in the current study. Related to this, a further reason for the selection of the Delphi method for this research project was that it is well suited to addressing fields that are ‘undergoing continual transformation and encountering constant theoretical and practical challenges’ (Fish and Busby, 1996, p.241). As the earlier literature review established teacher-initiated or DIY PD is an evolving area and so the use of the Delphi method will allow for a structured and rigorous exploration of this topic.

A key feature of the Delphi method is that it begins with open-ended response questions before moving to specific rating questionnaires informed by the earlier round. This permits freedom in the early stages before funnelling toward a focused outcome. Further to this the anonymity amongst respondents reduces potential for ‘risky-shift’ where groups in open discussion may move toward the extreme view of certain members (Clayton, 1997). This also means that the potential for ‘groupthink’, where a conformist view develops within a group possibly due to peer pressure or a desire to fit in with others, can be avoided and so migration toward a particular viewpoint is mitigated. However, it is important to note that the psychological research into ‘groupthink’ has produced varied results and this is by no means a universally accepted theory (Esser, 1998). Guaranteeing anonymity of respondents also enhances the ethical integrity of the design (see later section) as respondents could participate equitably. Linked to the issue of anonymity the Delphi method also enables each participant to ‘express views impersonally, while ultimately providing information generated by an entire group’ (Fink et al., 1984, p. 980) and in the current study this facilitated the generation of an objective, general consensus on the proposed phenomenon of teacher-initiated or DIY PD.

Although a variety of formats of the Delphi method have been proposed in research literature, it is also possible to employ a modified form allowing researchers to take account of specific practical issues (such as time or financial resource) and adapt the approach accordingly. However, it is important to consider that the greater the departure from the classic Delphi method the greater the requirement for validation of results, possibly by means of triangulation (Skulmoski et al., 2007).

Delphi method in preference to alternate methods

As the Delphi method involves gathering data from experts this could also be achieved via a series of group interviews or multiple iterations of standard questionnaires (Cohen et al., 2013). An alternative method to the Delphi approach is The Nominal Group Technique (NGT), a variant form of group interview which was considered for the current research project. This is a process which involves 'a structured meeting that attempts to provide an orderly procedure for obtaining qualitative information from target groups who are most closely associated with a problem area' (Fink et al., 1984, p. 980) and has been previously applied to educational research (e.g. Holme et al., 2016). Rejection of this approach was mainly on practical grounds as the experts were located across a wide geographical area (including beyond the UK). Although it was possible that this could have been addressed using technology (such as video conferencing) it would have presented challenges relating to timing and access to relevant technology. Fink et al. (1984) recommend the number of participants for the NGT method as 8 – 10 so this would have limited the potential sample size. The decision to include or omit experts (based on this nominal limit) would have provided additional challenges when deciding on the selection criteria. Fink et al. (1984) add that a successful nominal group depends on the skills of a highly trained leader; however as a researcher I had only supervised one group interview previously (see: Beresford-Dey and Holme, 2017).

Finally, one of the main advantages of the NGT is that the contact of the group means that collegiality is built amongst the participant group (Cohen et al., 2013). However, for the current study the experts came from a disparate group, with minimal professional overlap, and although they were linked by common areas of expertise the benefits from them working together were not seen to be of major significance. Unlike with NGT the ability to administer research without

participants needing to meet is one of the main practical advantages of the Delphi approach (Cohen et al., 2013). For the current subject the experts were distributed over a wide range of geographical and professional locations (meaning availability differed). The increase in social media use by educators and teachers also means that the experts may be more likely to respond and engage with a questionnaire distributed by electronic means. Historically, concerns have been raised over low response (Nulty, 2008) when using digital distribution method, thus potentially reducing the validity of the overall sample. Despite this, it was assumed, given the makeup of the expert group, that they would have sufficient digital skill to access the questionnaires. The electronic distribution method also facilitated communication with participants (for example to provide reminders), reduced distribution time and costs, and allowed for simpler data manipulation upon completion of the questionnaires (Cohen et al., 2013; Granello and Wheaton, 2004; Nulty, 2008).

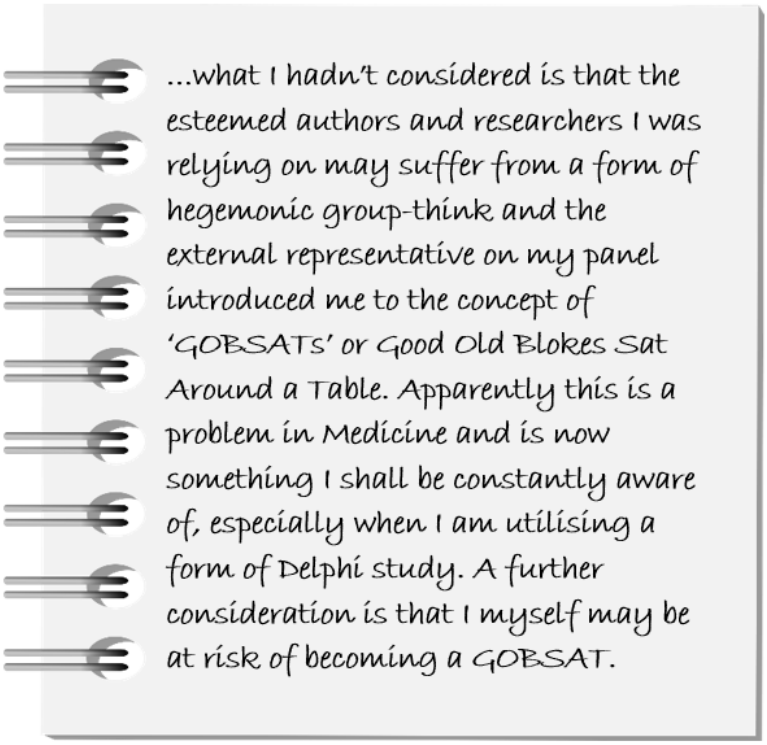
Limitations of the Delphi method

Most published research on the Delphi method explains the advantages which is unsurprising as researchers are less likely to publish, or have accepted, research detailing when a method was unsuitable the reasons for this may mirror the aversion to publishing null results (Ferguson and Heene, 2012). There has been some criticism of the method and, in particular, Sackman (1975) provided a comprehensive analysis of the potential limitations. Subsequent literature appears to draw heavily on this critique without adding to the topic.

Although the main advantage of the Delphi method is that it can build consensus on a variety of subjects and in various fields (Hasson et al., 2000; Hsu and Sandford, 2007) this may also result in a watered down view (Powell, 2003). As a result the removal of ‘extreme non-conformists’ for more debated topics or questions may give an ‘aura of precision’ (Sackman, 1975, p. 711). With this in mind the current study included and considered all outlier results. This was done by including all the initial statements from the first round of the Delphi in the second round. For example, one suggestion was that DIY PD should be ‘messy’ or unstructured. Although this appeared to challenge the wider views of the expert group it was presented back for analysis (see later section on findings) at round 2. Linstone and Turoff (1975) add that when a strong minority view exists and is not explored, the dissenters will often drop out, which leads to an

unrepresentative final consensus and so in the current study this was carefully monitored (by myself as the Delphi director) and is a key reason why only two Delphi rounds were planned and utilised. This is reasonable especially where opinions are being measured (Iqbal and Pipon-Young, 2009).

The next criticism of the Delphi method relates to sampling and the selection of experts. However, this issue can exist with any form of questionnaire or survey; even completely randomised, computerised sampling may be subject to some external influencing factors due to researcher involvement in planning. What is indisputable is the fact that the selection of experts is highly dependent on the subjective view of the Delphi director or co-ordinator (in this case also the researcher). Sackman (1975, p. 703) argues that 'in a small, closed group the director is tempted to select panellists he knows or colleagues recommended by his own acquaintances' or illusionary experts. This brings to mind a particular hegemonic group setting policy and only representing their personal views or interests. The problem with representing hegemonic opinions was brought to light during the upgrade review process, as the vignette below shows:



The GOBSAT (Good Old Boys Sat Around a Table) phenomenon (Wakeford, 2000) has been recognised in the medical sector for some time. It has been suggested their presence may result in decisions being made 'based on received

wisdom rather than current scientific evidence, and may be biased by undeclared conflicts of interests' (Miller and Petrie, 2000, p. 83). To mitigate any personal bias in this selection the criteria for experts was discussed with supervisors.

Sackman et al. (1975) suggest that on a practical level participants may be drawn from accessible experts and in the current study this was the case. This could be interpreted as a potential area for bias and result in a non-representative sample; lack of rigour in selection of experts has been identified as another problem (Landeta, 2006). The use of digital technology and social media (i.e. Twitter) widened the access to the potential pool of experts, something not possible when the Delphi method was originally developed. However, in the current study, access still proved to be a problem with one of the identified experts not located despite a comprehensive online search. To mitigate for this potential lack of rigour in the selection of experts the criteria and list were discussed with supervisors who agreed with the target groupings and individuals. Despite this, problems relating to the degree of subjectivity around who may or may not be an 'expert' should not be ignored.

The next area of limitation focuses on relationships between Delphi director (researcher) and participants. There is the potential for individuals to lead others in a particular direction and reduce objectivity. The contact between experts is impossible to remove (Dalkey et al., 1969). This would be present during the initial round when the director made contact with the expert group but also at subsequent iterative rounds where data is being collected. In the current study this was reduced by the use of online survey methods thus increasing the chance of anonymity between director and experts (although it was impossible to guarantee this). This presented an issue with clarity of instruction for participants as they could not ask questions as they might in an interview, and so the development of unambiguous written guidance for the survey was essential. Therefore, the participants were given the opportunity to make contact, if needed, with the Delphi director, and in one case this was taken up.[29]

An additional issue relating to the role of the Delphi director is the skill and judgement required, especially when deciding on the point to stop the research

[29] This respondent wanted to seek clarification about responding to the proposed definition for DIY PD and find out more about the method.

rounds or iterations (Hasson et al., 2000). In the current study this was less of an issue as only two rounds were planned because the topic was novel and the main objective of this study was to scope out the proposed phenomenon of DIY PD (Iqbal and Pipon-Young, 2009). As this was an important decision it was also discussed, at some length, with research supervisors.

As explored earlier, a key advantage of the Delphi method is that it guarantees anonymity of participants, allowing greater authenticity of response. However, this has also been criticised as it may allow participants freedom to say whatever they want, possibly relishing the opportunity to exaggerate their own views or push a personal agenda (Sackman, 1975). Becker and Bakal (1970) identify this as the potential to respond in any way, without impunity, so could be seen as an advantage, ensuring authenticity of response and, as already explored, the very nature of the topic under investigation meant that divergent views may be of interest. Having established the rationale, and addressed potential problems with the Delphi approach, the selected method for this study will be explored in greater detail.

Chosen research process and application of Delphi method

The Delphi study can be described as an example of a mixed method, in the form of an exploratory design (Punch and Oancea, 2014), in that the initial phase is qualitative moving to quantitative data collection during the next round. This method is said to be suitable if a phenomenon is to be explored in depth before considering the distribution or prevalence, or in this case the characteristics of the phenomenon (Creswell and Clark, 2007).

The Delphi method fitted in to the wider Professional Doctorate methodology, combining the earlier literature review and the reflexive diary completed throughout the process. The selected process for the entire study was adapted based on a recommended research process which includes six key phases (Arksey and O'Malley, 2005): (a) identification of research question, (b) identification of relevant studies, (c) selection of suitable studies, (d) charting relevant data, (e) collation, summarisation and reporting of results, and finally (f) optional consultation. As this process focuses on reviewing literature the current study adapted the process slightly with the second and third steps being adapted to identify key sources or participants (i.e. experts or stakeholders) and select key

data and responses. The process identified by Arksey and O'Malley (2005) was further refined (Levac et al., 2010) to include consultation with stakeholders, as part of knowledge transfer (both mid-study and at the end of the process), as an essential component as this would add methodological rigour. As a result this principle of essential consultation (using the doctoral supervisors, and other colleagues and contacts with research experience) was also adapted, and applied at several points acting as a 'health check' on the validity of sources and reliability of response. As the project evolved other potential experts (professional and academic) were identified, via key texts that were published after the empirical research was completed (e.g. Burstow, 2018; Czyz, 2017). These sources were incorporated into the analysis and updated literature review and it is acknowledged that if the expert survey was conducted again then they may be included. This illustrates that a Delphi study can only provide a view at a particular time, which could also be said of much case-study type research.

The consultation stage is seen as a crucial element for a number of reasons. Delbecq et al. (1975) discuss the use of the Delphic probe, which researchers use to guide the design. This requires the researcher to consider: why they are interested in the topic (in the current study this has been established); what new information or knowledge is sought (this is the main focus of the current study); and finally, how will results influence any future decision making in this field. This final element of the probe (also termed operationalisation stage) is less relevant for the current study as it is focusing on investigating a potential theoretical paradigm rather than having an immediate practical outcome or implication for policy. It has been proposed that operationalisation should only ever be utilised in quantitative research as it is a process of quantifying the dimensions of a particular theory, idea or concept (Sarantakos, 2012). Despite this consideration the final iteration and consultation stage also left open the potential for operationalisation of data at a subsequent phase of the project.

It has also been suggested that typically a Delphi study consists of three rounds including: issue formation, summarised feedback and questionnaire and then a re-evaluation based on analysis of results and identification of responses of central tendency (Green, 2014). However, two-rounds can be utilised if 'the main aim is to take the temperature of opinion on a topic' (Iqbal and Pipon-Young,

2009, p.600) which was the case in the current study. The adapted process which has been utilised in the current study is illustrated below (Figure 6).

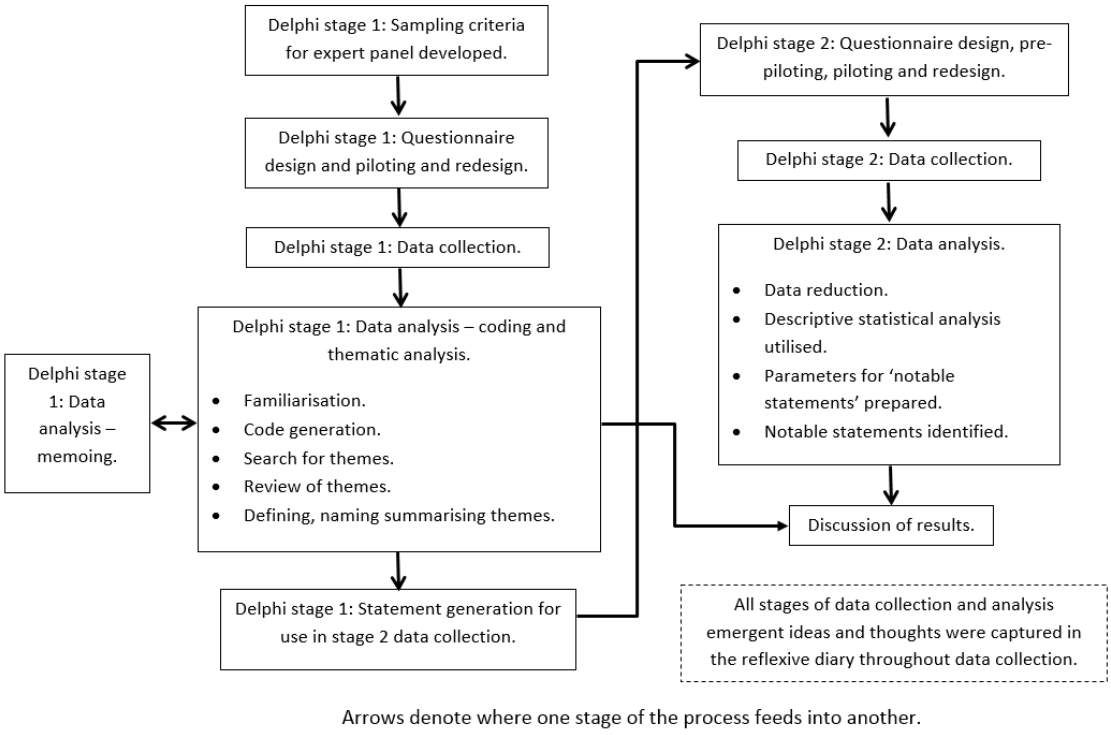


Figure 6: Delphi study process to investigate DIY or teacher-initiated PD (based on: Hasson et al., 2000; Okoli and Pawlowski, 2004)

For the remainder of this report the Delphi study round 1 refers to the initial, open-ended questionnaire (the first round) and Delphi study round 2 refers to the questionnaire with statements which sought to establish consensus of expert views (the second round).

Delphi round 1

Sampling

The quality of a piece of research, depends heavily on the appropriateness of sampling (Cohen et al., 2013). As this study utilised a form of expert survey participants needed to 'have substantial knowledge and experience in the research area, although their views may not have been published' (Sarantakos, 2012, p.150). This is particularly important given the paucity of published information on the subject of DIY PD but included experts who disseminate ideas

via formal means and also via alternative informal, often electronic, outlets (i.e. blogs, social media etc.). This is because some experts may not be in a position to publish in a formal or traditional manner, and the use of self-publishing is becoming more common in the field of education. As the focus of this study includes those in education who may be taking control of professional development for themselves, beyond the remit of formal organisations, then many will not be in a position to publish academic literature (unless engaged in private study). However, this should not invalidate their contribution in this area as they may be regarded by peers as experts and this point introduces the difficult problem of defining the parameters for the experts and the selection criteria.

Hsu and Sandford (2007) advise that experts should be competent with specialised knowledge of the target subject. This presents challenges as the target issue is one that is still developing and evolving. Therefore one of the major challenges for the current study was that the experts may not yet be regarded as experts by the entire field, which encompasses academia, practitioners and policy makers. An example of this may be a practising teacher who is using social media to engage in professional development activity (for example Ross McGill). Although they may not have the academic or research focused background, they would clearly be qualified to contribute to the topic. The initial stage of the sampling selection process was to identify the experts who would then participate in the study as an expert. The expertise criteria for participation in a Delphi study should generally include: a) sufficient knowledge and experience in the area being investigated; b) ability and availability to participate; c) time to participate (at each iteration), and; d) sufficient communication skills to contribute (Adler and Ziglio, 1996).

The sample size of a Delphi study can vary with studies utilising from 15 through to 60 participants (Hasson et al., 2000) although it has also been suggested that ‘what constitutes an optimal number of subjects in a Delphi study never reaches a consensus in the literature’ (Hsu and Sandford, 2007, p. 3). On a practical level an overly large sample could result in problems, especially at initial stages of data analysis, in deriving a coherent summary, to inform subsequent iterations. This would also create issues with time resource for the researcher (Hsu and Sandford, 2007). In the current study the issue of sample size was ultimately dictated by the preparation of the expert list (Table 2).

The use of a Delphi pilot (Clibbens et al., 2012) and snowballing to enhance a more suitable targeted sampling approach were also identified as possible useful elements (Skulmoski et al., 2007) and both were considered in the current study (and are discussed later).

Preparation of initial expert panel list

The initial list of contacts was developed, then sense-checked by supervisors and staff within the host academic department to confirm if the justification criteria for inclusion was suitable. As this was ultimately a subjective value judgement the limitations of this process should not be overlooked, and these will be considered in the final discussions. This was a separate activity to the piloting of the questionnaire, and additional names were not sought at this point. Literature on Delphi studies has suggested that heterogeneous, rather than homogenous groups of participant experts produces higher quality results (Delbecq et al., 1975). With this in mind three main groups of expert participants were identified as follows:

- Academic experts: Authors of published literature on teacher professional development (arising via the earlier literature review).
- Practitioner experts: High profile participants in online teacher professional development networks (identified via Twitter).
- Stakeholder groups: Organisations or professional networks concerned with teacher professional development (including UCET, GTCS, SCEL, EIS).

The inclusion of academic professionals and organisations is relatively obvious however the identification of practitioners engaged in PD was more challenging. It was decided that targeted sampling of those engaged in Twitter in education and specifically CPD would provide suitable additional experts. This was partly because these experts would be easily contactable, but they were also involved in accessing PD through an informal or unstructured manner and Twitter is one of the main online platform for teacher PD with, back in 2014, over 4 million education related tweets being posted each day (Jefferis, 2016). The blogpost *101 Educators to follow [on Twitter]* (McGill, 2016) was utilised as the primary source for the selection of this participant group.

A conscious decision was made not to approach teacher education institutions or local authorities directly, despite these being valuable sources of expertise. There was a concern that including these larger formal organisations may unbalance the expert list in favour of institutional responses reducing or removing authenticity in the views of DIY or teacher-initiated PD and as a result the expert list was predominantly based around individuals (rather than organisations). An additional advantage was that this also reflected the individual nature of DIY or teacher-initiated PD.

A variety of approaches (Appendix 6a) was utilised to make initial contact with participants, before invite emails were circulated (Appendix 6b) and this process is discussed in detail in the questionnaire distribution section.

Table 2: List of experts identified to participate in Delphi study

(note that data on who returned at round 2 not collected as not required)

Individual stakeholder name	**Reason for selection**	**Additional details/information**	**Intro email & invited to round 1**	**Completed round 1**	**Invited round 2**
Academic experts (n= 11 including RL also listed within stakeholder group below)					
Linda Evans	Significant academic contribution to field of teacher PD	Professor of Education at University of Manchester (formerly University of Leeds). Componential model of PD.	No reply	NA	No
Aileen Kennedy	Significant academic contribution to field of teacher PD	Based at Moray House School of Education, University of Edinburgh. Triple-lens framework for PD.	Yes	Yes	Yes
Brian Boyd	Significant academic contribution to field of teacher PD	Emeritus Professor, University of Strathclyde	Yes	Yes	Yes
Gordon Kirk	Significant academic contribution to field of teacher PD	Based at Moray House School of Education, University of Edinburgh	Yes	Yes	Yes
Rachel Lofthouse	Significant academic contribution to field of teacher PD	Professor of Education, Leeds Beckett University (formerly University of Newcastle). UCET CPD committee member	Yes	Yes	Yes

Individual stakeholder name	Reason for selection	Additional details/information	Intro email & invited to round 1	Completed round 1	Invited round 2
David Hartley	Significant academic contribution to field of teacher PD	Former academic staff member with University of Dundee also with Institute of Education	Unable to contact	NA	No
Nigel Fancourt	UCET CPD committee member	Based at Oxford University	Yes	Yes	Yes
Cliff Jones	Significant academic contribution to field of teacher PD	Former chair of International Professional Development Association and former UCET CPD committee member	Yes	Yes	Yes
Christopher Day	Significant academic contribution to field of teacher leadership	Emeritus Professor of Education, University of Nottingham	No reply	NA	No
Roger Wood	Teacher education professional experience in England and Scotland	University of Aberdeen (formerly Bishop Groteste University) Research into SDT and CLPL	Yes	Yes	Yes
Graham Donaldson	Academic and policy contribution to area of PD in Scottish education	Honorary Professor, University of Glasgow and President of International Professional Development Association	Yes (if time)	No	Yes

Individual stakeholder name	Reason for selection	Additional details/information	Intro email & invited to round 1	Completed round 1	Invited round 2
Ross McGill	Secondary DHT and education blogger	'Most followed teacher on Twitter' https://www.teachertoolkit.co.uk/	Yes	No	Yes
Ewan McIntosh	Initiator of TeachMeets	No Tosh Global Consultancy http://www.notosh.com/	Yes	No	Yes
George Gilchrist	Former primary head teacher	Member of various Scottish PD/PL networks	Yes	Yes	Yes
Sarah Bubb	Educational consultant and academic (UCL Institute of Education)	Specialist in Professional and leadership development, Policy development and programme evaluation, School improvement	No reply	NA	No
Mary Wade	PYP 5th grade teacher, PLN, & DIY PD	Identified following Twitter search for 'DIY CPD'	Yes	Yes	Yes
Laura McInerney	Editor of @SchoolsWeek. Guardian columnist.	From the Techer Toolkit 101 educators to follow:	Yes	No	Yes
David Cameron	Presenter, trainer, consultant - all areas in education and children's services	From the Techer Toolkit 101 educators to follow	Yes	Yes	Yes

Individual stakeholder name	Reason for selection	Additional details/information	Intro email & invited to round 1	Completed round 1	Invited round 2
Jill Berry	Former head, studying for a Professional Doctorate in Education and educational consultant.	From the Techer Toolkit 101 educators to follow	Yes	Yes	Yes
David Weston	CEO of Teacher Development Trust. Chair of Westminster Government Education CPD Group.	From the Techer Toolkit 101 educators to follow http://www.informededucation.com/contact/	Yes	Yes	Yes
Fearghal Kelly	Teacher currently seconded to Scottish College of Educational Leadership	From the Techer Toolkit 101 educators to follow	Yes	Yes	Yes
Dr Sue Robinson	Former head/NLE. Now education consultant. Development Director Elliot Foundation MAT, research with Uni of Warwick.	From the Techer Toolkit 101 educators to follow	No reply	NA	No

Individual stakeholder name	Reason for selection	Additional details/information	Intro email & invited to round 1	Completed round 1	Invited round 2
Asmy Tesfai	Worked with Ross McGill and Teaching & Learning team at Quintin Kynaston School	From the Techer Toolkit 101 educators to follow	No reply	NA	No
Paul Garvey	Educational consultant	From the Techer Toolkit 101 educators to follow Author of Talk for Teaching	Yes	Yes	Yes
Andy Buck	Former Headteacher and Director at National College, now MD of Leadership Matters and Dean of the Leadership Faculty at Teaching Leaders	From the Techer Toolkit 101 educators to follow Managing Director of Leadership Matters and former head teacher	Yes (late reply – within survey window)	Yes	Yes
Catriona Oates	Scottish educator and ITE lecturer	From the Teacher Toolkit 101 educators to follow PhD student (Learning Rounds; PLCs; critical realism)	Yes	Yes	Yes
Shaun Allison	SLT member	Author of Perfect Teacher Led CPD	Yes	No	Yes

Table 3: List of stakeholder group identified to participate in Delphi study

Stakeholder group name (n=7)	**Reason for selection**	**Additional details**	**Initial email**	**Completed round 1**	**Invited round 2**
GTCS	General Teaching Council for Scotland have a remit for professional standards in teaching	Contacted GTCS directly who suggested Dr Zoe Robertson as best contact (who has since moved to Moray House of Education, University of Edinburgh on secondment).	Yes (missed deadline – invited to second round)	No	Yes
Education Scotland	Government organisation responsible for education policy in Scotland	Emailed request to: enquiries@educationscotland.gov.uk	No reply	No	No
EIS	Educational Institute of Scotland – Scotland's largest education sector trade union	Lyn McClintock, EIS CPD and Learning Rep Co-ordinator.	Possibly- then no reply to follow up	No	No
SCEL	Scottish College for Educational Leadership – supporting professional learning[30]	Emailed Fearghal Kelly (Contact above).	Yes (counted above)	Yes (counted above)	Yes (counted above)

[30] Governance review in 2017 proposed that SCEL would be assimilated into Education Scotland, SCOTTISH GOVERNMENT:(2017) Education governance next steps: Empowering out teachers, parents and communities to deliver excellence and equity for our children. Edinburgh, UK, Scottish Government.

Stakeholder group name	Reason for selection	Additional details	Initial email	Completed round 1	Invited round 2
BERA	British Educational Research Association, organisation promoting educational research	Emailed request: enquiries@bera.ac.uk	No reply	No	No
UCET	Universities' Council for the Education of Teachers – Professional Development Committee	Emailed John Mountfield/James Noble-Rogers via generic email. Suggested trying Rachel Lofthouse.	Yes (Yes – RL – counted above)	Yes (counted above)	Yes
Tapestry Partnership	Organisation which aims to bring together major groups (governmental and NGOs) involved in Scottish Education	Chair - Keir Bloomer.	Yes	Yes (KB)	Yes

Totals returns from individuals and stakeholder groups:

Round 1 (Delphi first round): n= 22 (return rate = 17/22 = 77%)

Round 2 (Delphi second round): n= 23 (return rate = 14/23 = 61%)

Justification for design and description of instrument – round 1

A conventional Delphi method was adopted involving, at round 1, an initial qualitative questionnaire (Appendix 7). The first two pages of the questionnaire included an explanation of the study and the participant information sheet. The next page (questions 1-3) requested personal information (name, role and profession and contact details) to allow for follow up, which would allow direct quotes from participants to be utilised in later analysis and discussions of data although ultimately this was not included in the current project.

The main body of the round 1 questionnaire (questions 4-7) set out to investigate DIY PD as a phenomenon and this resulted in some key issues. The use of the term ‘valid’ could be interpreted in multiple ways but was deemed necessary as the intention was to try and identify if DIY PD was distinct concept or phenomenon at all and so worthy of further investigation. This reflects the qualitative research principle of validity in that it is a fair and complete representation of the phenomenon under investigation (Cohen et al., 2013). Despite the potential for ambiguous interpretation the term ‘valid’ was adopted as it was assumed the experts would understand this; later results suggesting it was broadly accepted and understood by participants. Despite this the terminology in the statement caused issues for two experts. The first responded that: *‘I am not sure what "a valid theoretical phenomenon" is’* and a second participant questioned the *‘difference between a concept and a phenomenon’* (Appendix 8a). These broader issues of terminology, and requirement for definitions, within education will be discussed at length in subsequent chapters.

The second issue was that the questionnaire could prove to be unbalanced as some respondents may have rejected the idea of DIY PD from the outset leaving remaining questions irrelevant to them but it deemed important that the respondents were given this option. As a result subsequent questions had to be carefully worded so as not to lead or influence the participants in a particular direction. To address this issue of balance a reverse worded question examining why DIY PD may *not* be regarded as a valid phenomenon was also included; cross-checking of these responses later confirmed no one had responded in a contradictory manner to these dichotomous options. Finally if the general idea was rejected by the expert group the bricolage methodology would allow for the research methods to evolve accordingly.

Questions 6 and 7 were designed to elicit what characteristics or activities may constitute or contribute toward DIY PD and again this assumed that the participants had accepted DIY PD as a theory. As a result the questions were carefully worded (stressing "*if DIY PD is validated by the responses*") allowing participants to reiterate any previous concerns to the proposed phenomenon of DIY PD.

Questions 8 and 9 enquired about additional individuals, stakeholder groups or even theories that might inform the wider study or investigation. This was primarily included to allow for snowballing and to signpost the researcher toward sources that may have been missed. The initial plan was that any missing experts could be included as a parallel group to the round 1 initial questionnaire. However, on consideration and discussion with supervisors, it was thought this would create two distinctly different groups within the expert survey. Furthermore there would be no quality control element to this selection, in contrast to the expert selection criteria covered earlier. A potential criticism, identified during a research supervision session, was that the request for theories may be seen as the participants or experts 'doing the research for you!'' (Lakin, 2016). Nevertheless, this was also an opportunity for me as the researcher to learn and, given the focus of the wider project (i.e. teacher development), this seemed appropriate as it would contribute toward my own professional development (see Chapter 10).

The wording of all questions at this round was deliberately open-ended and exploratory in nature so as to allow for detail to be provided and to address a complex topic. In addition the use of open-ended questions provided the respondent with 'ownership' (Cohen et al., 2013), with the aim of ensuring greater authenticity of response. A downside of this open-ended approach is that a large amount of data may be collected. As a result the subsequent process of coding and thematic analysis was planned to allow for data to be grouped as appropriate and also make this process more manageable.

Piloting of Delphi round 1 questionnaire

Cohen et al. (2013) state piloting is an essential part of research design and provides guidance covering issues including: practical or technical matters, question quality or efficacy and comprehensibility. This stage is critical in planning and executing a Delphi at *each* round of the study (Clibbens et al., 2012) and so

multiple piloting stages were utilised (Wellington, 2015). It is advised that the pilot participant group should be as similar as possible to the target population (Van Teijlingen and Hundley, 2002) and so peers within teacher education were approached. Twelve academic staff from the researcher's host department were invited to act as the pilot group with one additional individual, with research degree training, but not from an education background was also included. Although the academic staff were not experts in teacher professional development they had sufficient understanding of the topic under investigation and experience of research methods to give informed feedback. Additional piloting support and feedback was provided by the host University Survey Service team.

The piloting process sought to address the following key areas (adapted from: Cohen et al., 2013):

- Simplicity or ease of question completion and presentation.
- Ambiguity of questions.
- Identification of redundant questions.
- Length and time required to complete.
- Intrusiveness of questions.

The pilot stage of the first round of the Delphi project resulted in four of the thirteen pilot participants responding and this raised the issue that response rate (30%) may be problematic once the formal research process began. Therefore, it was decided that the target sample for the main research stage would receive an initial invite via email (Appendix 6a) aiming to increase response rate (Edwards et al., 2009) and it was also decided that non-responders (to the invite email) would not be included in the research sample. The invite email also allowed potential participants to provide details of their availability so the timing for release of the questionnaire could be planned.

One respondent in the pilot stage (who was not from a teacher education background) thought the questions were presented suitably and completion of the questions was straightforward although a degree of professional knowledge was required to participate. The same pilot respondent added that the content

was of such a specialised nature that they did not feel able to complete the questions to a sufficient degree which indicated that the 'pitch' of questions was suitable for an expert survey.

Addressing the target aims (see above) other pilot respondents identified issues (including unclear presentation and ordering of questions and typing errors) which resulted in some questions being reworded or reordered to provide greater clarity. Following review of all pilot responses no questions were deemed to be redundant although the layout was altered slightly so similar questions were grouped together to make completion easier. There was no suggestion from pilot respondents that any questions were ambiguous or intrusive in nature. On the basis of this piloting exercise the initial questionnaire invite was sent to 33 participants (Table 2 and Table 3). It is important to note that no pilot group respondents were included in the final research sample group.

Data collection design – Delphi round 1

Questionnaire distribution

It was decided that the most suitable method for distribution of the survey was by electronic means (Iqbal and Pipon-Young, 2009). This provided several advantages including ability to reach respondents quickly and make completion of the questionnaire easier for them. Edwards et al. (2009) state this approach has been shown to increase response rate although it has also been suggested that a degree of technical skill is also required, for example if surveys are distributed as attachments. As a result the use of a hyperlink to a web-based survey, embedded in an email, was selected as the most accessible method (Denscombe, 2007).

Once the initial questionnaire had been developed and piloted, participants were contacted via telephone, social media or other web-based method (see Appendix 6a) to obtain a contact email address.[31] Once a contact email address was obtained they were sent a standardised email inviting them to participate in the study (see Appendix 6b). This had the dual advantage of ensuring only available and interested individuals would receive the questionnaire but also prepare those participants in advance giving some idea of the study and focus topic. It has been suggested that advanced and repeated contact with participants has a positive

[31] Unfortunately one expert could not be traced despite a thorough online search.

impact on engagement and return rate through the process (Edwards et al., 2009; Iqbal and Pipon-Young, 2009).

Following the invitation email the initial Delphi round 1 survey questionnaire (Appendix 7) was distributed on a Monday morning, with the return date being set for two weeks later (closing date also on a Monday) with a reminder email sent at the halfway point. It was hoped that coinciding with the start of a week would encourage participation as this might allow them to plan a time to complete the survey, rather than it being overlooked if arriving in a participant's email inbox during or at the end of the week. The data collection period for the round 1 questionnaire was timed to occur at the end of the academic and teaching year (mid-June) for academic and school based practitioners, but was before UK school holiday periods.

The execution of the round 1 data collection phase proceeded without any major problems or issues. One participant took up the option to contact the researcher to clarify the aim and objective of the study as they were unsure about offering dissenting views[32]. The main concern from the participant was that their views may be in conflict with some of the ideas proposed in the questions and as the Delphi director I explained that this was perfectly acceptable and that the survey had been designed in a way to try and elicit as authentic a viewpoint as possible and that no particular view was being sought.

Process for analysis of Delphi round 1 data

The first round of the Delphi study included open-ended questions so a form of thematic analysis, based on coding, was selected for the data analysis (Saldaña, 2015). This was because it allowed for any initial consensus amongst responses to be identified which would inform round 2 of the Delphi study.

Thematic analysis has been described as 'a procedure whereby emergent themes are drawn from the data in order to describe a particular aspect of the world' (Gavin, 2008, p.382). Guest et al. (2011) suggest applied thematic analysis will draw on principles of grounded theory, positivism, interpretivism and phenomenology, which was appropriate given the selected bricolage

[32] This enquiry was particularly interesting to me, but due to reasons of privacy and anonymity it is not possible to offer further detail or discussion. It does open up the idea that there may be a culture, within education, of a need to request permission to dissent.

methodology. Furthermore this approach should be effectively applied through the use of systematic and visible methods and clear explanation of procedures so with this in mind the analysis process, and source raw data is provided later (Appendix 8).

Linking the thematic analysis process directly to the Delphi method Hassan et al., (2000) explain that where a variety of terms are used for the same issue the researcher can group these together providing a common description. The exploratory nature of the topic also meant this was seen as the most suitable approach as ‘an inductive approach to data coding and analysis is a bottom-up approach and is driven by what is in the data’ (Braun et al., 2014, p.58). This was particularly important in the current study as the main objective was to scope out, or map the terrain, of teacher-initiated or DIY PD. However it has also been argued that it is not possible to be completely inductive as some prior knowledge or experience of the topic may be required, and this was certainly the case in the current study where the pilot stage revealed (via feedback from the non-educational specialist) that some of the terms and language used would not be obvious to less informed individuals.

Fereday and Muir-Cochrane (2006) suggest a challenge with the process is the issue of reliability and one option is to utilise a co-researcher and test for inter-coder reliability, although the qualitative and subjective nature of the topic also meant the value of this could be questioned (Vaismoradi et al., 2013). Unfortunately within the current study, mainly for practical and resourcing reasons, this was not a viable option, and so should be regarded as a limitation. To mitigate this, consultation with research supervisors was utilised to sense check examples of coding during supervision meetings which increased researcher confidence in this process.

An additional risk when employing thematic analysis is that there is a tendency to immediately start searching for themes (Clarke and Braun, 2013) which may lead to preconceptions being reinforced, albeit subconsciously, and so a structured process was adopted to remove this risk. The chosen thematic analysis process was adapted from the approach proposed by Braun and Clarke (2006) and resulted in the following six stage process:

1. Familiarisation,

2. Code generation,

3. Search for themes,

4. Review of potential themes,

5. Defining and naming and summarising themes,

6. Statement generation (basis for Delphi round 2).

Coding can be completed either inductively or deductively, and the nature of the current study meant an inductive method was adopted. The form which coding can take may also differ, being either ‘manifest’, where the direct meaning is taken, or ‘latent’, where the underlying meaning is interpreted. Given the exploratory nature of this study, and lack of an established or shared terminology, ‘latent’ coding was used predominantly. The greater opportunity for subjectivity (Joffe and Yardley, 2004), and potential weakness of this, is acknowledged, but was unavoidable.

The process of coding required careful consideration of the data and in the initial stages potential codes were developed with repeat consideration so that less obvious elements of the data set were not overlooked but also so that content initially deemed relevant could be reassessed (Braun et al., 2014). Once the codes were identified these were utilised to find common themes and then reviewed before summarisation. Braun et al., (2014) suggest a final phase (producing the report) which was not necessary for the current study due to the multi- round nature of the Delphi method. Therefore the sixth phase was adapted and termed ‘statement generation’, which was essential to prepare the statements to be used in round 2 of the Delphi study.

Finally the core data, codes and themes have been made available for the reader of this final report (Appendix 8). This level of transparency is intended to give readers confidence as they can see how themes had been derived. For purposes of rigour it is important that not just the practical coding process is explained, but the way in which themes or categories are linguistically understood by the researcher (Stelmach, 2016). The interpretivist nature of coding meant that some form of definitions were required so that key terms could be identified. This was challenging as the Delphi method allows undefined ideas to emerge. Furthermore these definitions, and the interpretation by experts and myself, as researcher, are

likely to have developed and evolved over the life of the project. This issue of defining key terms is considered in detail during the discussion section (Chapter 6).

Memoing

The process of memoing, as described by Punch and Oancea (2014), is a form of qualitative analysis that can run alongside coding. It is valuable because during data analysis ideas will occur; these should be recorded and captured and not ignored as they form part of the wider data set, giving evidence of the research process. During the current study this approach was included as it fitted with the wider bricolage methodology. Although not used extensively, examples of this informal memoing are displayed in the images below (Figure 8). An interesting observation is the use of posing questions to myself, where as a researcher, I am entering into a dialogue with myself, representing Freire's theory of conscientization (Freire, 2013).

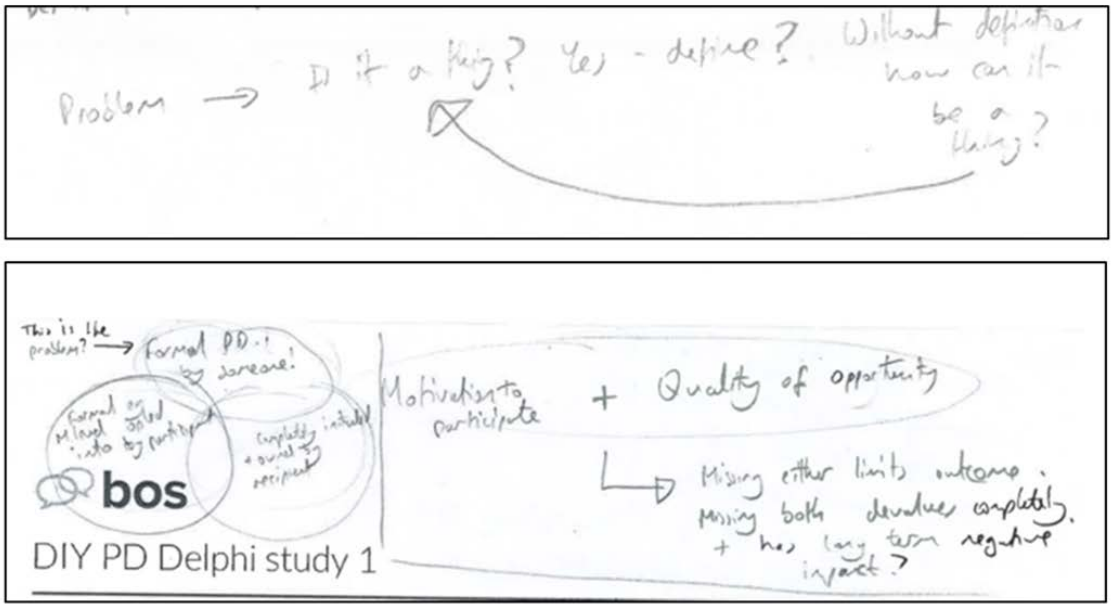


Figure 7: Example of memoing during data analysis stage

Presentation of data and results – Delphi round 1

Response rate

As explained earlier the initial expert list comprised of 33 individuals or stakeholder organisations. Following initial invitation a total targeted sample of 23

(consisting of 8 academic contacts, 12 Twitter based educators, and 3 Stakeholder groups or organisations) agreed to participate and were sent the hyperlink to the Delphi survey (hosted within the Bristol Online Survey platform). From this sample group (n= 23) 17 responses were obtained giving a response rate of 74% which was above the proposed ideal 70% response rate required to maintain rigour (Sumsion, 1998) and credibility (Beretta, 1996).

Consideration of sub-sample comparison (participant category/groupings)

Given that the expert panel list (see Chapter 4) comprised of three separate groups (academics and researchers, practitioners, and stakeholder groups), and some of these were Scottish based and other UK wide (plus one from the US) there was an option to compare responses from the different groups. However, the main objective of the study was to map or scope the proposed phenomenon, and so this additional complexity that this would provide would detract from this objective. Furthermore separation by geographical lines would then have required greater detailed consideration of examples of PD. For example the Pedagoo movement exists only in Scotland, whereas the BrewEd phenomenon has so far mainly occurred in England. Within North America the Unconference model has led to the development of EdCamps (Swanson, 2014), and in contrast the TeachMeet movement has spread internationally (Wikipedia, 2010). Moreover, separating some of the participants in to sub-groups would have been challenging given that, especially in the case of academics and educational consultants, they work across these geographical boundaries.

Finally the relatively small starting sample would have meant that consensus would have been more likely for some of the smaller sub-samples, increasing the opportunity for notable statements, and reducing the opportunity for data reduction (see Chapter 5). For these reasons the pragmatic decision was made to treat the sample as a single group. Despite this, the option to return to the data for more detailed analysis, along these lines, remains possible.

Delphi round 1 data analysis process

1. Familiarisation

The familiarisation process was completed over a number of days with careful initial reading, and rereading, of the completed responses. During subsequent rereads the order of questions was reversed with the aim of later questions and

responses for each question being given equal attention. Although not for ethical reasons (which are covered separately at the end of this chapter) the respondent's personal data (questions 1 to 3) were removed, using the functionality within the online survey software. This was because I had some knowledge of the respondents and did not want my preconceptions or beliefs to impact on the data analysis.

During the familiarisation process it became apparent that (within questions 4 to 7) there was a continuum of views for each question. It was also clear that, despite careful piloting, some questions had been interpreted slightly differently by respondents, possibly due to the open-ended nature of the questionnaire. What was clear is that there was a general feel that DIY PD was a topic or subject worthy of discussion. It also became apparent that different respondents approached these questions from their personal position; be it educational practitioner, academic or representative of a particular organisation. However the main aim of the study was not to compare these separate groups and so data will be discussed without this distinction or comparison.

The final three questions (8 – 10, see Appendix 8) were designed to elicit additional information on relevant theory, research, stakeholder groups or experts which could inform later discussion. As this data was not eliciting opinion, simply asking for suggested follow up sources, it was treated differently and not analysed for codes and themes. Instead it was used to supplement and update the literature review. This proved to be extremely valuable with some core documents and sources being identified by the experts (e.g. Cordingley et al., 2015; Jefferis, 2016; Timperley et al., 2008). The final question (10) also reinforced some of the ideas put forward earlier in the questionnaire, such as concern over DIY PD as a separate concept.

2. Code generation

Once the familiarisation process was completed the data was revisited with the aim of generating codes. One of the most important considerations at this point was that the data should not be 'rushed at' and should be treated fairly or equally. This recommendation of 'not starting [coding] yet' (Newby, 2014, p.470) until the data had been well familiarised was taken very seriously and the formal process outlined earlier adhered to wherever necessary. The coding process should be

grounded in theory in respect to the categories being derived from existing theoretical constructs, rather from the material itself (Cohen et al., 2013). However, due to the novel nature of the topic a more pragmatic approach was adopted, basing codes on theoretical constructs (e.g. motivation, agency) and more general ideas (e.g. concept of DIY PD disputed).

Newby (2014) suggest the process of coding and identifying units of data may be accompanied by a process of 'tagging' and this was utilised in the current study. The units of data identified by coding should then be used to generate the units of analysis during the subsequent broader search for themes (Braun and Clarke, 2006). Open coding, on a question by question basis, (Arthur et al., 2012) was used for initial analysis. Once this process was complete a second stage, which could be described as analytical coding, moving from simple description to inference, was employed (Cohen et al., 2013). This was partly due to the topic being complex, and involving novel and ambiguous terminology, and so the ability to infer reasonable meaning was important. It was also crucial that meaning was not over interpreted or misinterpreted so a 'sense check' stage was employed at several points where the research supervisors were given access to samples of original source data, codes and themes.

From a practical perspective this stage involved highlighting key words or phrases for all questions. As the coding process can be an intensive process for the researcher, time breaks were included so I would not become overwhelmed with the analysis, and miss important, but less obvious, aspects being overlooked.

The following example (in response to question 4) illustrates the coding process:

> Question 4: Based on the general description of DIY PD (see below*) do you recognise or acknowledge this as a concept and think this is a valid theoretical phenomenon within education and therefore be recognised as a discrete form of CPD (please provide justification and details)?:
>
> Response: I think it is a conceptually distinct form of teacher learning, but am not sure about the label 'DIY PD'…

After analysing the source response the following codes were assigned (Table 4):

Table 4: Example of codes developed from participant response

Original text in response	Codes
I think this is a conceptually distinct form of teacher learning, but am not sure about the label 'DIY'	A recognised concept/phenomenon
	Unsure if term suitable

It is important to note that the reverse worded questions (4 and 5) both addressed the same key point, namely if DIY PD was a valid concept or theory. Therefore at the coding stage these data were treated separately, and a separate table produced at the thematic analysis stage (Table 5).

The final list of codes and associated themes for each question are available in Appendix 8.

3. Search for themes

It is important that themes are based on theory, however naturally occurring themes, emerging from within the data, must also be acknowledged (Joffe, 2012). Within the current study, where the topic is relatively novel, this was an important consideration and a majority of the data was developed in this manner with less formal consideration of theory that arose from the literature review stage. The full list of themes, extrapolated from the codes, is represented below (Table 5).

The search for themes stage, stemming from the coding, followed a similarly inductive approach which required a process of applied abstraction with ongoing comparison or cross-referencing (Punch and Oancea, 2014). An important point here is that the reverse worded questions (4 and 5) addressed the same key issue, namely if DIY PD was, or was not, a valid concept. Therefore, it was decided, for coherence and clarity, that the respective terminology for these identified themes should match each other; although, in some cases the codes proved to be sufficiently distinct to form a separate theme by themselves. For example for question 4 the code was '[DIY PD is] A recognised concept/phenomenon' and so the theme became '[DIY PD] Recognised as a concept'. In other examples several codes were summarised within a theme for example for question number 4 several alternative terms were suggested for DIY PD (namely 'Teacher Initiated Professional Learning', 'Personal Professional Development' and 'Career-Long Professional Learning' each of which generated

a specific code) and so were classed as the single theme ‘Alternative theme proposed’.

A further classification took place at this stage where themes were assessed to see if they were directly, partially or not at all relevant to the question. This classification was recorded in the results table of codes and themes in a final comments column. Based on this classification the following, directly relevant, key themes were identified (Table 5):

Table 5: Themes identified from participant data

Question 4 - DIY PD as a concept/phenomenon	**Themes (frequency of response)**
Based on the general description of DIY PD (see below*) do you recognise or acknowledge this as a concept and think this is a valid theoretical phenomenon within education and therefore be recognised as a discrete form of CPD (please provide justification and details)?: * *The proposed phenomenon of DIY PD is professional development activity which is instigated and led primarily by the beneficiary (i.e. teacher or educator). Suggested examples include autonomous teacher/professional learning communities, teacher-led TeachMeet events and use of social media platforms (eg Twitter #EdChat)*	Recognised as a concept (15) Disputing the DIY PD concept (2) Issues with DIY PD term/interpretation (4) Greater definition required (8) Alternative term proposed (3)
Question 5 - DIY PD as a concept/phenomenon	**Themes (frequency of response)**
Can you provide suggestions or reasons why DIY PD should not be identified as a concept or may not be a valid phenomenon within education and therefore not be recognised as a discrete form of CPD (please provide justification and details):	Recognised as a concept (12) Disputing the concept (1) Issues with term/interpretation (5) Alternative term proposed (1) Similar to alternative concept (4) Greater definition required (1)

Question 6 – Characteristics of DIY PD	**Themes (frequency of response)**
If DIY PD was identified by the expert group (of which you are one) as a valid phenomenon then what would the key characteristics be (this might include issues such as: ownership, autonomy, voluntary/compulsory requirement, formal accreditation, free to access or cost bearing, outside or within work time, enjoyable, challenging or easily accessible, or any other relevant issue)?:	Outcome/impact factors (9) Accreditation factors (3) Delivery method factors (location) (6) Delivery method factors (interpersonal) (5) Delivery method factors (resource support) (5) Delivery method factors (financial) (3) Delivery method (other i.e. *flexible*) (1) Agency factors (intrinsic, positive control) (24) Agency factors (external, negative control) (4) Content factors (teacher focused) (6) Content factors (student/pupil focused) (2) Content factors (theory, research focused) (5)
Question 7 - Possible DIY PD activities	**Themes (frequency of response)**
If DIY PD was defined as a phenomenon then what activities, events or form may this take (this could include: TeachMeets, use of social media, Professional Learning Communities, or any other relevant issue)?:	Personal relationship or peer based PD (10) Group or event based PD (22) Digital/online facilitated PD (12)

4. Review of potential themes

The thematic review step was essential as it allowed an opportunity to cross-check against the source raw data. The process of reviewing themes involved two sub-stages (or levels) with the initial stage considering if the codes within a theme made a coherent pattern (Braun and Clarke, 2006). Once an initial check for coherence was completed, the themes were considered in relation to the entire data set to make sure no theme had been missed or given extra prominence. The chosen process involved comparing the summary table back to the original data, which was then read through in its entirety. This process proceeded in a straightforward manner in part because there were relatively few themes identified for each question. Some minor clarification and editing was carried out at this stage; for example, from question 6, one of the themes was initially listed as ‘Delivery method (other)’ which became ‘Delivery method (other i.e. flexible)’ as the source data was ‘Flexible - they can commit as far as they wish’.

At this point no major changes were made to themes; however some were reallocated as the raw responses were more suitably applied to different questions. This was because during the previous step some themes had been classified as being more relevant to other questions. Finally the themes were summarised and mapped for each key question and presented in the table above (Table 5).

5. Defining and naming and summarising themes

The finalised themes allowed a general picture to emerge from the data and the general summary was again cross-referenced with the themes, codes and source data showing a reasonable summation of the respondents’ views. The main finding was that there was value in exploring the concept of DIY PD further; however greater clarification of the concept, in particular around terminology, was required. It should be noted that as questions 1 to 3 only provided survey administration, and basic demographic, information these are not included in Table 5.

Results of DIY PD as a concept/phenomenon Questions 4 and 5

- There was a general consensus that the conceptualisation of DIY or teacher-initiated professional development was a valid proposition.
- There needs to be greater clarification with regard to the definition and naming of this concept (DIY PD), with some alternative terms proposed.
- There was some scepticism about DIY PD as a concept in its own right and some concerns raised about the inherent value of it to teacher development.

These questions also generated responses which were not directly relevant but the data was considered in the analysis of subsequent questions and applied where more widely relevant. For example, delivery method factors and teacher agency factors were both identified in the data at this point, but as this set of questions focused on DIY PD as a concept or phenomenon, no themes were produced from this.

Results of characteristics of DIY PD Question 6

- The outcome and impact of PD on teaching and learning of pupils or students should be considered.
- Content of DIY PD activity can focus on curricular or pedagogy issues and can be research informed, focused and relevant, enjoyable or rigorous.
- The delivery type or format, style and physical location of the PD opportunity are important and these may be less formal, not representing the traditional view of PD.
- DIY PD does not need to be formally accredited but this should not be ruled out and neither should the involvement of experts.
- The issue of participant agency is particularly relevant and important factors include ownership, motivation and engagement.
- Potential barriers, specifically power, hierarchy and trust, must be considered. Risk factors also include overly simplified PD content, access to resources and imposed structural or organisational restriction.

Results of DIY PD activities Question 7

- This form of PD can involve personal relationship or peer based activities (such as one-to-one coaching or TLC/PLCs); collaboration or co-operation are important considerations.

- This may involve group or event based activities (such as Teach Meet events or conferences).

- PD activity could be facilitated by digital or online methods or systems (such as MOOCS, blogs or social media e.g. Twitter).

A notable element of the data for this question was the reference to factors that may impede or impact on the engagement with DIY PD. These codes were classed as two distinct themes; namely 'Outcome/impact factors' (frequency = 4) and 'Risk factors' (frequency = 7). These two themes were not directly relevant to the question but provided valuable information for the previous question and so data was relocated to the relevant, earlier point.

Additional relevant themes

Throughout the mapping process cross-checking of raw data, codes and themes was utilised to confirm that themes were representative of the entire data set. However, during this process, small examples of the source data had not been represented by the themes above. These were all very specific codes, and each was provided only by a single respondent, and these are detailed below.

- Causal factors for increased prevalence of DIY PD should be considered, such as social fracturing.

- The use of terminology such as validity and phenomenon or concept requires clarification.

- Context (such as national or local level) is an important factor.

Data analysis Question 8 (initially planned for snowballing purposes)

Within the round 1 questionnaire design question 8 was planned to provide additional information and potentially widen or 'snowball' the participant group. Of the 17 responses 7 participants did not offer any suggestions of alternative experts or useful sources. The remaining 10 participants offered a wide range of recommendations which included: academic authors, researchers, and links to

specific papers or texts. This is a variation of the process known as ‘connoisseurial accumulation’ which has been used elsewhere when researching teacher professional development (Cordingley et al., 2015). Additional names ranged from experts already involved as participants to well-known historical educational figures, such as John Dewey, to recent researchers, such recent doctoral study in this area (Jefferis, 2016). The complexity of locating and then contacting all the individuals (especially as some such as Dewey were no longer alive[33]) meant that inclusion of these individuals in the second round of the Delphi study was deemed not to be practical. As explained earlier this information was used when revisiting the literature review. This iterative approach mirrored that of the Delphi method itself and the pragmatic use of expert knowledge fitted well with the bricolage methodology. An example of this is where the Cordingley (2015) paper was referenced as a useful additional source by a respondent. A positive result was that several of the recommendations (authors, literature or organisations) had already been included or considered, demonstrating validity by way of triangulation of sources through this method of cross-checking from multiple sources by identifying regularities (O'Donoghue and Punch, 2003).

Delphi round 1 summary

Redefinition of DIY PD

At this point thematic mapping was utilised to see how this fitted with the original source data. This process proved to be relatively simple and one of the potential risks, of endless refining and recoding (Braun and Clarke, 2006), was avoided. This was due to the straightforward nature of the question focus, which required for more descriptive responses (e.g. Q7 - If DIY PD was defined as a phenomenon then what activities, events or form may this take?).

Based on the findings from this round of the Delphi study it appeared that DIY PD could be adopted as a concept with the proviso that greater clarity was provided and so a clearer definition was deemed necessary. At the literature review stage of this project a working definition of professional development had been adopted:

[33] One of my supervisors, jokingly, proposed utilising an Ouija board. However, as this was not a recognised research method I opted to ignore this idea!

> *The activities and process by which teacher's professionalism is permanently enhanced, particularly by critically informed thinking. (Holme, 2015b, p.19)*

Based on round 1 of the Delphi study this was reformulated, to be used in the round 2 questionnaire with leaner outcome, and agency or ownership factors being included (see Appendix 8). As a result the working definition for DIY PD became:

> *The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcomes for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.*

At this stage in the research project the term owned is used to refer to a formal body or organisation (such as a local authority or organisation such as SCEL or The Association of Science Educators), this issue of formal definition is challenging and is debated in the findings section (Chapter 6).

Statement generation for use in Delphi round 2

Once the themes had been identified statements were prepared so the expert group could then rate these, with the aim of establishing areas of consensus.

The questions from round 1 Delphi provided the basis for questions for the round 2 Delphi; this was achieved by considering the themes and generating sub-questions. As Hasson et al. (2000) suggest, wording used by participants, albeit with minor editing, should be retained as authentically as possible for round two. Therefore the initial statements were revisited and reworded, whilst ensuring meaning was not altered, during round 2 piloting.

Data collection Delphi round 2

Justification for design and content of instrument – round 2

The standard approach for the second round of a Delphi study is to employ a scaled questionnaire, using a Likert-type scale system in attempt to establish consensus against a series of statements (Linstone and Turoff, 1975). Thus the key statements, developed at the end of round 1, were utilised in the second round of the Delphi study in the questionnaire. Based on an example provided by Lauer (2006) the current study adopted a four choice response including: strongly agree, agree, disagree, strongly disagree. The option to avoid a mid-point, due to tendency for respondents to opt for this option, was taken even though it has

also been argued that respondent should be given the chance to maintain a neutral position (Cohen et al., 2013). The inclusion of a ‘don’t know’ (DK) option can reduce the potential for nonsense answers potentially improving reliability however research has suggested this is not the case. For example in pre-election polling (a form of opinion survey) it was found survey data is more accurate when respondents are pushed to offer a preference for a candidate having initially responded DK (Krosnick and Presser, 2010). This ‘forcing’ was also deemed acceptable for the current study as respondents were, by definition, experts in the field so were informed enough to make a decision in one direction or another. Following this decision it was decided that greater detail should be provided in some questions, including clarification with meanings or definitions, so respondents at round 2 were able to make as informed a choice as was practicably possible.

The round 2 questionnaire (Appendix 10) did not request personal data because anonymity would limit the risk of unconscious bias during analysis. There was also no value to be gained from being able to quote specific responses later, due to the lack of qualitative data, which had been a reason for collecting personal information at round 1. A potential drawback from this was there was no way of being able to see which respondents had completed the round 2 questionnaire. Yet, as there was no plan to compare groups or individual responses, this was not of major concern. Furthermore, Iqbal and Pipon-Young (2009) suggest it is reasonable to expand the panel base at the second round of the Delphi, so the complete sample group for round 1 was again invited to participate in round 2.

The issue of forcing (and lack of a DK option) was of particular relevance to the initial series of questions which addressed the nature of DIY PD as a concept or discrete form of professional development. The Delphi round 1 questionnaire results revealed a range of opinions on this topic and piloting of the round 2 questionnaire (discussed later) also identified this as a potentially problematic area. One option which was considered was to utilise open-ended questions again; however since this had been done at round 1 it may have simply generated the same or similar responses again, and would have been a considerable departure from the standard Delphi method (Linstone and Turoff, 1975) making identifying a consensus far more difficult. An alternative method would have been to utilise some sort of numeric rating scale to show level of agreement; again this

would also be a departure from the classic Delphi method. As a result the final decision was to present three initial statements (reflecting the round 1 results):

- I recognise or accept the general principle of DIY PD as a discrete area of PD and wish to complete the remainder of the survey.
- I am not sure about the general principle of DIY PD as a discrete area of PD but wish to complete the remainder of the survey (this will require you to address the questions from the point of view of generally accepting the general principle of DIY PD).
- I do not recognise or accept the general principle of DIY PD as a discrete area of PD and wish to exit the survey (this, and your earlier responses, will still contribute to the findings and analysis within this research project).

This question (2) then allowed the survey to be branched or routed (Bristol Online Survey, 2016) so that respondents who did not recognise DIY PD could skip to the end of the survey, and so not dilute or confuse data from the remaining questions. The use of the online survey tool made this process straight forward at the design stage and also allowed for respondents to express their views authentically and not feel pressured to answer subsequent questions. Despite this, it presented an additional issue as those who opted to branch out from the main survey did not have their views represented in the final data set. This was the only feasible way to accommodate them as it was expected they would disagree strongly with all subsequent statements. This problem is one of the key limitations with the way the Delphi is executed and must be kept in mind when considering the later findings; the limitations will be considered in more detail in the next section.

Prior to this branching question, six preliminary questions were included starting with whether participants viewed DIY PD as a valid concept. This question was repeated with positive and negative terminology options (i.e. it is a concept or it is not a concept):

1.1. DIY PD should be regarded as a discrete form of PD.

1.2. DIY PD should not be regarded as a discrete form of PD.

This presented the option to ‘health check’ the responses as the reverse wording meant it could be assumed that someone responding ‘agree’ to question 1.1 would respond ‘disagree’ to question 1.2. The remaining questions in the initial section of questions explored the validity of DIY PD and potential issues with defining PD in general, proposing that:

> 1.3. There is value in recognising this definition of PD as discrete from other forms of PD.
>
> 1.4. Classification or definition of forms of PD may limit the value of PD.
>
> 1.5. Classification or definition of any form of learning is not possible.

This meant that there were five questions in the initial section followed by the branching question. The branching option was followed with the main body of the questionnaire which considered the round 1 statements under the broad headings or categories of characteristics, factors or activities that may represent DIY PD; this resulted in a final list of 68 statements. As discussed earlier, and in light of the positive response rate from the first round of the Delphi study, the online distribution method was again selected. Throughout the questionnaire development Fish and Busby’s (1996) guide to how a Likert-type scale can be applied to a Delphi study was used.

Preparation of Delphi round 2 questionnaire design including limitations

The initial challenge with the second round of any Delphi study is that the large amount of initial data may create an unmanageable amount of statements; as a result less frequent responses may be omitted. However, this is not consistent with the principle of the Delphi methods as it is the participants, not the researcher, who should make the judgements (Hasson et al., 2000). Furthermore, unusual responses may not have been considered by a majority of participants, for example if a new or novel idea was introduced. In the current study the reference to ‘social fracturing’ (Faust and Nagar, 2001) as being a possible cause of increased prevalence of DIY PD, and although only identified by one participant it was included in the round 2 statements. This approach has parallels to the suggestion that negative cases, or outliers, should be utilised within qualitative analysis to add validity and development of rigour (Morse, 2015). This idea of outliers was also extended to include results that were disputed by the experts,

and this process is explained later in this section, and results discussed in Chapter 5.

When designing the round 2 questionnaire the issue of researcher subjectivity, originating within the round 1 analysis, had to be considered. As discussed in the previous section, the detailed coding approach which aimed to achieve linguistic clarity (Miller and Fredericks, 2003), reduced the possibility of subjectivity (Saldaña, 2015). This process was reinforced through cross-checking with research supervisors. The statement bank was reviewed on multiple occasions, to sense check, and in places wording was altered. If there was ambiguity within responses then the pragmatic decision was made to rephrase the statements attempting to infer original meaning (Linstone and Turoff, 1975). The inclusion of 'may' or 'should' was avoided, if possible, as the level of ambiguity was likely to generate high level of agreement from respondents and result in less precision in the final data. However, when the source data included these terms, they were retained. For example, the round 1 raw response: *"Teachers <u>should</u>, therefore, play a central, highly important role in implementing interventions and initiatives designed to improve the students' quality of learning"* generated (amongst others) the code: *"Outcome is a factor"* which in turn informed the later statement: *"DIY PD activity <u>should</u> result in outcome/impact for learner" (i.e. pupil/student)* (retained word underlined for illustrative purpose).

The issue of panellist interpretation also raised challenges where the meaning of words differs depending on application; where colloquial meaning differs from the technical or academic meaning. The term 'teacher agency', for example, has been investigated in a wider theoretical setting but application to activities of teachers in schools has been given less overt attention (Biesta et al., 2015) and this issue is discussed in detail in Chapters 6 and 7. The interpretation of ideas or terminology will differ, depending on the individual and their experience and knowledge, so within qualitative social science research this subjectivity is considered an advantage (Sarantakos, 2012). As a researcher can only ever make a subjective analysis, or judgment, it seems reasonable to acknowledge respondents will do the same.

A further limitation in the questionnaire design was the use of leading or suggestive language. This common issue when conducting interviews (Ritchie et

al., 2013) also applies with questionnaires (Sarantakos, 2012). The inclusion of example characteristics or activities within the statements, at round 1, meant participants may have been influenced to list these. In some cases, use of examples or contextualisation (e.g. by way of vignettes), can stimulate a greater depth of thinking or specificity of response (Ritchie et al., 2013) but was not possible given the format of the Delphi method. It would also have presented major logistical challenges in the delivery of the questionnaire. In methods focusing on interviews a clarification stage is recommended (Ritchie et al., 2013) but given that the current study utilised questionnaires this was not possible. Ultimately the pragmatic decision was made that, given the participants were experts, they would have sufficient personal agency not to be unduly led by question statements.

As explained above the results of the round 1 questionnaire raised some important issues about clarity of terminology. Where possible, clarification was provided for the participants in particular with what was meant by 'concept or phenomenon'. Informed by Bourdieu's Thinking Tools (Wellington, 2000) this was clarified as: '**The term concept or phenomenon is being used here to mean a discrete form or classification of PD and a recognisable idea – and will serve the additional purpose of providing a label.'* Where this occurred with other statements greater definition was included; for example the difference between agency and autonomy. In contrast some of the less obvious statements, which could not be clarified, were simply retained as presented by participants at round 1. An example of this was the statement: '*Participants should be given 'space' to undertake DIY PD'*, where the term 'space' could be interpreted in multiple ways but was retained.

This ambiguity of question terminology (e.g. what is understood by the term agency) presented further challenges during the design of the round 2 question statements. As a result a final free text question, requesting comments, was added to the end of the round 2 questionnaire (Appendix 12) so participants could raise issues. Three participants highlighted this concern citing, and questioning, terms such as agency and ownership, outcomes or improvement, and social fracturing. This limitation also brought to light the general issue of terminology, and a lack of shared understanding, when discussing PD in education. As a result this will be discussed, in greater detail, in Chapters 6 and 7.

Piloting – Delphi round 2

Iqbal and Pipon-Young (2009, p.600) suggest that for successful execution of the Delphi method ‘extended piloting may be necessary’ and so the pilot method adopted at round 1 of the Delphi was repeated with the same pilot participants for the round 2 questionnaire. A pre-pilot round was also utilised with a member of the University Survey Support Team who advised on technical issues such as presentation of questions and organisation of answer options. The members of the round 1 pilot group were again invited to provide feedback and of the 13 pilot participants 7 completed the questionnaire (a response rate of 54%). The following key points and suggestions were identified, with associated mitigating actions taken:

- Greater explanation for origin of DIY PD definition; clarification of this was provided.
- Leading nature of some statements; where possible wording altered, whilst maintaining original language or meaning.
- Suggestions of additional or extra question statements; not possible as Delphi method requires statements to be based on round 1 participant response.
- The forced nature of questions may be problematic for respondents, or may frustrate them; this was part of the planned design (see earlier discussion) therefore additional information was included for participants to make them aware in advance.
- Suggestions of a ‘don’t know’ (DK) option; this was discussed with supervisors and the decision taken not to include DK, however additional explanation was provided to participants to minimise confusion or frustration.
- Problem with DIY PD as a discrete concept/phenomenon; the initial questions presented three options and a branching option was employed so that participants who were unsure about the concept could leave the survey at that point (effectively adding a DK option).
- Typing errors and formatting issues; all corrected as required.

Sampling and questionnaire distribution – Delphi round 2

The same sample, who responded positively to the invitation email, was retained comprising of the 22 participants. An additional participant was added at round 2 because they replied to the round 1 invite after that data had been collected and analysed. This resulted in the total round 2 sample being 23.

The round 2 Delphi questionnaire was distributed on a Monday with the electronic link included in the invite email (see Appendix 9). The initial plan was to keep this open for three weeks; however as this period coincided with school and university holidays (some 'out of office' replies were received). As flexibility with deadlines has been shown to improve response rate (Iqbal and Pipon-Young, 2009) the deadline was extended and the questionnaire finally closed on a Tuesday, four weeks after launch. By this time the round 2 questionnaire closed 14 participants (out of a potential 23) had participated giving a response rate of 61% (a slight reduction from round 1).

As the round 2 questionnaire had been designed to generate quantitative data a form of statistical analysis was required and this process will be discussed in the following section.

Process for analysis of data - round 2

The aim of the Delphi method is to establish expert consensus, and statistical methods can be used to calculate interrater reliability (Armstrong, 2001). One recommended method to analyse results, and interrater reliability or agreement, is the Kappa method (Heiko, 2012) with two variations available to researchers. Cohen's Kappa works for two raters and Fleiss' Kappa (Fleiss, 1971) is designed for use with multiple raters (such as in the current study). The Fleiss' Kappa removes the possibility of chance agreement between participants which, given the categorical nature of data obtained in the current study, meant this was an important consideration. Although the current study used categories (strongly agree, agree, disagree and strongly disagree) there was an ordinal nature to the choices (i.e. 1 < 2 < 3 < 4, see Figure 8) which meant the Fleiss Kappa test was not applicable for individual statements. As the Kappa method is often recommended for use with a Delphi study this decision was discussed at length with supervisors and academic staff who were specialists in statistical methods (Hubbard, 2016; Schofield, 2017) with suitable alternatives identified.

Various alternative statistical or mathematical approaches have been adopted during Delphi studies and these include methods to measure central tendency, such as a mean average or the mode or median for each statement (Heiko, 2012; Iqbal and Pipon-Young, 2009). Although these may be seen by some statisticians as a less sophisticated approach, following discussions with a statistics specialist (Hubbard, 2016), these were deemed to be suitable for the current study. In the first instance the categorical data was reclassified as binary data and was seen as a reasonable approach as the classifications ‘strongly disagree’ and ‘disagree’ could be grouped together as could the responses ‘strongly agree’ and ‘agree’. It is important to note that in doing so the additional degree of nuance, provided by four categories, was lost. To mitigate this, the raw data was also analysed with the true mean calculated (across four potential scores of 1 – 4) and this has previously been utilised by Delphi studies with a 4 point scale where scores greater than 3.5 were seen as essential characteristics (West and Cannon, 1988). Utilising this approach for the current study this was adapted so that a mean of less than 1.5 would equate to overall disagreement and greater than 3.5 as overall agreement. It is important to note that calculating the mean when data is categorical could be viewed as being not strictly correct (Argyrous, 2005) despite the data in the current study also having an ordinal nature to it (Figure 8). The use of the mean to analyse ordinal data, especially with Likert-type scales, which have similarities to interval scales, has also been justified as measurement error is likely to not be significant (Shields et al., 1987). One of the weaknesses of using the mean is that any outliers may ‘pull’ the data away from the mean (Gordon, 2003) and so the use of mode and median are alternative suggested measures of central tendency (Argyrous, 2005). As a result, to give the broadest possible analysis, the arithmetic mean, mode and median were all calculated and used in the analysis and will be discussed subsequently. The complete raw data set from round 2, for each participant, is included in Appendix 11, including standard deviation.

The final issue with the analysis of the data is that the theoretical magnitude of difference which respondents may infer between agree and disagree is likely to be greater than between strongly disagree and disagree or between strongly agree and agree, but given the study design (and lack of DK option) this was

unavoidable. This is illustrated visually below (Figure 8) by the spacing of the arrows between each statement.

Likert score	1	Perceived difference in magnitude	2	Perceived difference in magnitude	3	Perceived difference in magnitude	4
Statement category	Strongly disagree	↔	Disagree	⟷	Agree	↔	Strongly agree

Figure 8: Participant perceived difference in magnitude between Likert options

Ethical consideration - Delphi rounds 1 and 2

The issue of research ethics is important in any study and the literature covering key principles is vast. The formalisation of these principles into codes of practice and development of institutionalised requirements is common (Punch and Oancea, 2014) and the current study required adherence to the host university's ethical processes. All the required procedures and regulations were followed prior to the commencement of any research activity (including piloting) and full permission for the study was granted (Appendix 5). A key point with the current study was that all participants were able to provide informed consent as they were deemed competent to do so (Cohen et al., 2013). The fact that participants were competent adults, many with first-hand experience of research, further reduced the risk of them not being aware of ethical implications. There was no need for 'gatekeepers' (Punch and Oancea, 2014), as may be the case within other forms of research (e.g. with children), as participants were: competent, volunteering, had access to full information and could comprehend any implications of participation (Cohen et al., 2013).

In addition, the subject matter was judged low risk as participants were being asked about a theoretical or conceptual idea so there was no requirement to make judgment on individuals, or comment on specific organisations. Some participants did opt to mention individuals or organisations in their responses but this was simply descriptive in nature (Appendix 8) with no content deemed to be controversial or potentially harmful. The decision to reproduce all the source data in this report was made for purposes of transparency and increase confidence in objectivity of the analysis process. This source data (Appendix 8) has been

anonymised and was checked carefully to check nothing could cause harm to others. The ultimate pragmatic decision was that the benefit of doing this were obvious, whereas potential costs to participants (Cohen et al., 2013) was none existent or highly unlikely.

The major ethical issue in the study was the potential for participants to be named during a later publication or dissemination stage of the project. This request for potential disclosure was seen as an important element at the design stage so that specific responses could be attributed to specific individuals during discussion stage. This was justified as, in some cases, 'methodological reasons make adherence to all ethical principles impossible' (Sarantakos, 2012, p.21), however in doing so this effectively removed both the anonymity and confidentiality elements (Cohen et al., 2013). To mitigate potential issues this element of the method was made explicitly clear to the participants allowing full comprehension. A key consideration with this decision was the level of risk participants may be subjected to (Cohen et al., 2013) and in the case of participants who were academics or researchers it is likely that they would be expected to participate in research relating to, or comment on, the topic being investigated.

Several of the participants also had experience of engaging in social media and blog posting, in publically open forums discussing, sometimes controversial, educational issues (e.g. Ross McGill via the TeacherToolkit website, or Jill Berry via Twitter). Therefore, it was assumed that participants would be comfortable with sharing ideas; however, for the participants representing particular organisations there may be risks to them if they are associated with particular opinions. For example teachers in Scotland are required to adhere to professional standards (GTCS, 2013) and so these were considered prior to the instruments being finalised, alongside the questionnaire, to ensure participants' integrity would not be compromised. As already outlined the relatively safe or uncontroversial nature of the research topic, i.e. not enquiring about sensitive issues or private life (Sarantakos, 2012), reduced ethical concerns. However, ultimately a decision was made not to directly quote respondents in the final report. This was because it was thought this would not enhance the quality of the research. However, the option to utilise this, possibly in subsequent research projects later, is retained (see Chapter 10).

One of the main advantages of the Delphi study is it supports anonymity of participants from each other at data collection stage, reducing issues of power imbalance, which may in turn enhance authenticity of response. The issue of participant reactivity can occur in an attempt to appear socially desirable to others and the lack of contact between participants removed this potential risk (Lauer, 2006). The issue of maintaining contact between the Delphi director or researcher and participant has been identified by Beretta (1996) who discusses research where this occurred, suggesting this may have an impact on the participants who would feel coerced into responding. Nevertheless, it is unavoidable that a degree of power rests with the Delphi director (in this case myself), although the relatively safe subject matter had lower potential for embarrassment or discomfort and did not present health and safety or mental or physical risks (Sarantakos, 2012). The ethical considerations present at the initial round of the Delphi study were the same in the subsequent round of data collection, with the second round less ethically problematic as personal information was not requested, increasing the level of anonymity. As the Delphi director I attempted to minimise participant traceability (Cohen et al., 2013) by making the conscious decision not to access the personal information at any point during the data analysis stages, meaning that I had no idea which participants had responded. Although identities may have been inferred in the current study, for example where participants referenced their own work, the ability to keep opinions and specific responses anonymised between participants (Hasson et al., 2000) was largely maintained.

An additional issue, which could also be levelled at other research methods not delivered in person, is that the person completing the Delphi questionnaires may not be the intended participant. This has been highlighted as a potential issue with mail-based questionnaires (Keeney et al., 2001) although as the current study utilised email, with the survey sent directly to participants inboxes, this was less likely. The participants were also initially invited to participate via email and so it would have required a considerable effort to deceive both the intended participant and Delphi director, intercepting multiple emails then responding to the surveys, in this manner.

The final point to note is that all participants, and potential participants, are named in the final report (Table 2 and Table 3). This decision was made as it allows the reader to interrogate the credentials of the expert panel. Furthermore, the

presentation of this basic data presents no obvious risks to the individuals and was all available in the public domain. The raw data survey (presented in Appendix 8) did contain some information that may have led individuals to be identified, and so where required this was redacted. A final consideration for the thesis report is that where the reflexive diary vignettes referenced specific individuals (such as colleagues or through Twitter interactions, even if in the public domain) these names were also redacted. In most cases there was not thought to be any risk to these individuals, but it was also thought that there was no value to be gained from naming these individuals.

Overall, considering the design, methods, analysis, and presentation of data and findings, (Wellington, 2015) this study was seen to be low risk from an ethical perspective. This was due to the relatively uncontroversial subject matter and the fact that free and informed consent was obtained from all participants (Cohen et al., 2013; Newby, 2014; Sarantakos, 2012). Finally, given their expert status, the participants were deemed capable of providing this consent; the next section will consider the findings of the completed Delphi study.

Chapter 5 – Findings and analysis of data

Introduction to findings

The concluding findings for this study are drawn from the data derived from round 2 of the Delphi study. Data was extracted from the online survey tool (BOS) then a spreadsheet package (Microsoft Excel) was used to manipulate the data using descriptive statistical methods (see previous section). As a point of clarity for the reader the terms *panellist, participant*, *respondent* and *expert* are all used (depending on context) throughout the remainder of the thesis and refer to those who participated in the study and completed the Delphi questionnaires (Appendix 10). The term *expert* is explained in the preceding Methods Chapter.

When using mixed methods research the first stage should be data reduction (Onwuegbuzie, 2000) and given the large quantity and complexity of the data this stage was essential. To achieve this aim thematic identification or descriptive statistics are recommended (Johnson and Onwuegbuzie, 2004) with supporting literature suggesting that in some cases the level selected to show agreement or disagreement may be arbitrary (Heiko, 2012) and that these can be established after the data has been completed. Although this approach has drawbacks it was applied in the current study as there were no previous examples of similar studies on which to base thresholds. Ultimately the pragmatic decision was taken to employ a combination of basic analysis to include mean, mode and median (explained in the previous section) to give both a broad view of which responses were most notable and this pragmatic, mixed approach also fitted with the wider bricolage methodology.

Data reduction

Where there is a large quantity of data, such as in the current study, Onwuegbuzie (2000) states a data reduction technique should be attempted. In the first instance this was done by transforming the data from categorical to binary by issuing either a value of ‘0’ for statements classed as strongly disagree or, disagree and a value of ‘1’ applied to statements classed as agree or strong agree. This was adopted following discussions with university based statistical specialist staff, especially as there was no mid-point or ‘Don’t Know’ option (Hubbard, 2016). In addition the main justification for this was to render the data more easily readable and quickly analysable. The arithmetic mean scores, using the source category data, were

also calculated, and are presented in the data table for comparison (Table 6). The mean for this binary data was then calculated for each question. This meant 100% agreement with a statement would give a value of 1.0, or 100% disagreement with a statement would equal a value of 0.0, or 0%, and half of the participants agreeing and half of the participants disagreeing would give a value of 0.5, or 50%. A 'sense check' of this method, comparing this data to the arithmetic mean of the category scores showed that this did not fundamentally alter the profile or the nature of the data, but did give a slightly greater degree of separation, resulting in a greater degree of data reduction. Data was colour coded so that a mean value of greater than 0.9 (or 90% agreement) was displayed as green, a mean value less than 0.1 (or 10% agreement) was displayed as red and a value between 0.4 and 0.6 (40-60% agreement) was displayed as amber (see Table 6). The reasons for the inclusion of the mid-point group was because, although the Delphi method usually seeks consensus, there are occasions when disagreement or opposing views amongst respondents is seen as valuable (Heiko, 2012) and was encouraged by research supervisors from the outset of this project. For questions 1b – 4a (post branching option) in real terms one respondent (out of 13) was the equivalent to 8%.

At data reduction stage a classification system was adopted. This allowed for labelling of statements as '*notable*'. The reason for this term is that it avoids an inherent value judgement which could be inferred from a term such as *'important'* or could lead to confusion if a statistical term such as *'significant'* was used.

Bricolage and data reduction

A final consideration of the adopted methodology is that, it could be argued, by its very nature bricolage should utilise not just the tools but also the data at the disposal of the researcher. Therefore the adoption of data reduction may not be in the true 'spirit' of a bricoleur. However contrary to this the bricoleur should also be able to make pragmatic decisions, and not be required to always adhere to convention (Linstone and Turoff, 1975). As a result, given the high level on consensus within the original data set and limited space available to report and discuss findings, the pragmatic decision was taken to utilise a reduction technique (Onwuegbuzie, 2000).

Table 6: Delphi round 2 results – including data reduction to identify notable statements

Question/statement	Mode / Median (srongly disagree; disagree; agree; strongly agree)	Arithmetic mean (category score- 1=strongly disagree; 4=strongly agree)	Mean %age (binary score) 0= strongly disagree; 1= strongly agree	Notable statements (mean: <0.1; =1.0; between 0.4 - 0.6 AND match to mode/median)
DIY PD as a concept/phenomenon				
1a.i DIY PD should be regarded as a discrete form of PD	Disagree	2.36	0.43	x
1a.ii DIY PD should not be regarded as a discrete form of PD	Agree	2.64	0.57	x
1a.iii There is value in recognising this definition of PD as discrete from other forms of PD	Agree	2.50	0.50	x
1a.iv Classification or definition of forms of PD may limit the value of PD	Agree	2.43	0.50	x
1a.v Classification or definition of any form of learning is not possible	Disagree	1.86	0.14	
Terminology				
2a.i The term DIY PD fits with the definition	Agree	2.85	0.85	
2a.ii A more suitable term would be Teacher Initiated Professional Learning	Agree	2.85	0.69	
2a.iii A more suitable term would be Personal Professional Learning	Disagree	2.31	0.38	
2a.iv A more suitable term would be Career-Long Professional Learning	Disagree	2.38	0.38	
2a.v This concept has similarities with action research	Agree	2.69	0.69	
2a.vi The DIY term potentially devalues this form of professional development	Disagree	2.46	0.46	x
2a.vii The term 'yourself' could be reconsidered (as this suggests not involving others)	Agree	2.92	0.69	
2a.viii If DIY PD is teacher initiated then it may not be based on evidence	Disagree	2.31	0.38	
2a.ix If DIY PD is teacher initiated there is a risk this may reinforce poor practice	Agree	2.62	0.69	

Question/statement	Mode / Median (srongly disagree; disagree; agree; strongly agree)	Arithmetic mean (category score- 1=strongly disagree; 4=strongly agree)	Mean %age (binary score) 0= strongly disagree; 1= strongly agree	Notable statements (mean: <0.1; =1.0; between 0.4 - 0.6 AND match to mode/median)
Nature or characteristics of PD				
3a.i DIY PD activity should result in outcome/impact for learner (i.e. pupil/student)	Strongly agree/agree	3.15	0.77	
3a.ii The participant or beneficiary perceiving the PD activity as being beneficial could be an outcome	Agree	2.92	0.92	
3a.iii DIY PD may involve some formal accreditation	Agree	2.92	0.85	
3a.iv DIY PD should be enjoyable for participants	Agree	3.15	0.92	
3a.v DIY PD should be relevant to the participant	Strongly agree	3.62	1.00	x
3a.vi DIY PD should be rigorous	Agree	3.15	0.85	
3a.vii DIY PD needs to be 'untimed' or 'untidy'	Agree/Disagree	2.38	0.46	x
3a.viii DIY PD may result in less quality PD (e.g. 'Top tips' sessions)	Agree/Disagree	2.31	0.46	x
3a.ix DIY PD should be based on evidence (e.g. research)	Agree	2.85	0.69	
3a.x DIY PD may be inductive or exploratory in nature	Agree	3.31	1.00	
3a.xi DIY PD may complement or overlap with other forms of PD	Agree	3.46	1.00	
3a.xii DIY PD may focus on pedagogy or curriculum	Agree	3.46	1.00	
3b.i The participant must initiate or direct this form of PD	Agree	3.15	0.92	
3b.ii Agency (the capacity to act) is an essential element of DIY PD	Strongly agree	3.62	1.00	x
3b.iii Autonomy (ability to make an informed, un-coerced decision) is an essential element of DIY PD	Strongly agree	3.54	0.92	
3b.iv The participant must have ownership over this form of PD	Strongly agree	3.54	1.00	x
3b.v The participant must be personally motivated to engage in this form of PD	Strongly agree	3.54	1.00	x
3b.vi Choice is a key characteristic of DIY PD	Agree	3.46	1.00	
3b.vii The participant will make some commitment to this form of PD (e.g. financial or time)	Agree	3.46	1.00	
3c.i The opportunity for networking is an important element of DIY PD	Agree	3.46	1.00	
3c.ii The opportunity for community or collaboration is an important element of DIY PD	Strongly agree	3.62	1.00	x
3c.iii DIY PD can be hidden from, or unacknowledged by, managers	Agree	2.92	0.85	
3c.iv The participant should be empowered to engage in this form of PD	Agree	3.46	1.00	
3c.v School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD	Strongly agree	3.54	1.00	x

Question/statement	Mode / Median (srongly disagree; disagree; agree; strongly agree)	Arithmetic mean (category score- 1=strongly disagree; 4=strongly agree)	Mean %age (binary score) 0= strongly disagree; 1= strongly agree	Notable statements (mean: <0.1; =1.0; between 0.4 - 0.6 AND match to mode/median)
DIY PD activities or delivery factors				
3d.i Delivery location and accessibility of DIY PD are important factors	Agree	2.85	0.77	
3d.ii DIY PD should be situated away from the formal workplace	Disagree	1.85	0.00	x
3d.iii DIY PD can be situated within a formal PD environment	Agree	2.85	0.85	
3d.iv DIY PD can be situated in online or virtual location (e.g. using social media)	Agree	3.00	0.92	
3d.v Positioning of DIY PD online may create transitory or intermittent engagement	Agree	2.62	0.69	
3d.vi If DIY PD involved transitory or intermittent engagement this would be a weakness	Disagree	2.46	0.46	x
3d.vii Delivery location of DIY PD should be flexible	Agree	3.23	1.00	
3e.i Availability of time resource may limit impact of DIY PD	Agree	3.38	1.00	
3e.ii Participants must be given 'space' to undertake DIY PD	Agree	3.31	1.00	
3e.iii DIY PD does not have to be free for the participant	Agree	2.92	0.92	
3e.iv DIY PD may be cost neutral to the participant	Agree	3.00	0.92	
3f.i Listing events or activities may limit the potential of DIY PD	Disagree	2.69	0.38	
4b.i Observations	Agree	3.31	1.00	
4b.ii Learning rounds	Agree	3.15	0.92	
4b.iii Coaching	Agree	3.31	1.00	
4b.iv Study visits	Agree	3.15	0.92	
4b.v University partnership work	Agree	3.46	1.00	
4b.vi Practitioner enquiry	Agree	3.46	1.00	
4b.vii Talk for teaching (and sharing ideas, practice)	Strongly agree	3.46	0.92	
4b.viii Professional conversations	Strongly agree	3.69	1.00	x
4b.ix Structured reflective activity	Strongly agree/agree	3.38	0.92	

Question/statement	Mode / Median (srongly disagree; disagree; agree; strongly agree)	Arithmetic mean (category score- 1=strongly disagree; 4=strongly agree)	Mean %age (binary score) 0= strongly disagree; 1= strongly agree	Notable statements (mean: <0.1; =1.0; between 0.4 - 0.6 AND match to mode/median)
DIY PD activities or delivery factors (continued)				
4c.i Teaching Learning Community/Professional Learning Community	Strongly agree	3.54	1.00	x
4c.ii TeachMeets	Agree	3.31	0.92	
4c.iii MeetUps	Agree	3.31	0.92	
4c.iv Reading groups	Agree	3.23	0.92	
4c.v Events such as EdCamp or conferences	Agree	3.15	0.92	
4c.vi Official organised events (e.g. school based CPD) initiated by teachers	Agree	3.31	1.00	
4d.i MOOCs or online learning units	Agree	3.00	1.00	
4d.ii Social media	Agree	3.31	0.92	
4d.iii Blogging	Agree	3.31	0.92	
4d.iv Podcasts	Agree	3.00	1.00	
Disputed factors				
5a.i The causal factors for an increased prevalence of DIY PD should be explored	Agree	3.15	1.00	
5a.ii Social fracturing within education may be a cause for an increased prevalence of DIY PD so should be explored	Strongly agree/agree	3.15	0.77	
5a.iii Context (e.g. national or local regulation) may influence or have an impact on DIY PD	Agree	3.31	1.00	
5a.iv A risk of DIY PD is that any positive impact may be reduced by defining, evaluating or measuring it	Disagree	2.23	0.31	

Data analysis

Is DIY PD a discrete form or separate category of CPD?

As explained earlier, to avoid leading the respondents, the classification of DIY PD as a discrete form of PD was investigated using two reverse worded questions, one which asked if DIY PD *should* be recognised as a discrete form of PD, and one asking if it *should not* be regarded as discrete form of PD. The first stage of analysis, found that all participants offered the equivalent opposing answer to these two questions which was important as a respondent agreeing or disagreeing to both contradictory statements would suggest presence of 'nonsense data' and reveal serious methodological issues.

The next two questions asked about the value of recognising DIY PD as a discrete form of PD and if defining or classifying PD may limit the value of PD. Both these questions resulted in a binary mean value response of 50% with exactly half the respondents agreeing and half disagreeing.

The final question in this section asked if there is an issue with classifying any form of PD and a majority of respondents disagreed with this statement (although two out of 14 respondents agreed). The mode and median analysis both suggested that overall the experts agreed there was some value in recognising DIY PD as a discrete form of PD. Therefore, the fact that all but one expert continued with the questionnaire suggested, as a group, they deemed this is an area worthy of further investigation. This has implications for the subsequent stages of the research study and so the issue of classification and terminology within PD will be returned to in the later discussions.

Branching question analysis

Following the first 5 sub-questions (1a.i – 1a.v) the branching question was introduced so that those clearly disagreeing with the concept or phenomenon of DIY PD could bypass the remainder of the questionnaire and this resulted in one participant taking this option. The results of this question (not numbered) are not represented in Table 6 but presented separately in Table 7 below.

The branching question asked:

> *The remainder of the survey will consider characteristics and activities related to DIY PD in greater detail. If you completely reject this as a*

discrete form of PD you have the option to exit the survey now, or you may decide to answer these questions from a hypothetical viewpoint.

One of the respondents did not accept the general principle of DIY PD as a discrete area and opted to 'branch out' of the remainder of the survey. Of the remaining respondents exactly half expressed some reservations with the idea of DIY PD as a discrete area of PD whereas just under half readily accepted the principle of DIY PD as a discrete area of PD (Table 7).

Table 7: Branching question results

Branching question option	**Response (n= 14)**	**Mean %age (binary data)**
I am not sure about the general principle of DIY PD as a discrete area of PD but wish to complete the remainder of the survey (this will require you to address the questions from the point of view of generally accepting the general principle of DIY PD)	7	50%
I recognise or accept the general principle of DIY PD as a discrete area of PD and wish to complete the remainder of the survey	6	43%
I do not recognise or accept the general principle of DIY PD as a discrete area of PD and wish to exit the survey (this, and your earlier responses, will still contribute to the findings and analysis within this research project)	1	7%

Possible characteristics and activities of DIY PD

The main section of the questionnaire considered the characteristics and activities that may relate to DIY PD. Participants were asked to rate each statement and refer to the redeveloped definition for DIY PD, namely:

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This stage of analysis allowed for the data to be reduced so that statements with highest level of agreement and disagreement were identified. Based on the analysis of the binary data 44 statements scored greater than 90% agreement and of these 27 statements scored 100%; these were:

3a.v DIY PD should be relevant to the participant

3a.x DIY PD may be inductive or exploratory in nature

3a.xi DIY PD may complement or overlap with other forms of PD

3a.xii DIY PD may focus on pedagogy or curriculum

3b.ii Agency (the capacity to act) is an essential element of DIY PD

3b.iv The participant must have ownership over this form of PD

3b.v The participant must be personally motivated to engage in this form of PD

3b.vi Choice is a key characteristic of DIY PD

3b.vii The participant will make some commitment to this form of PD (e.g. financial or time)

3c.i The opportunity for networking is an important element of DIY PD

3c.ii The opportunity for community or collaboration is an important element of DIY PD

3c.iv The participant should be empowered to engage in this form of PD

3c.v School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD

3d.vii Delivery location of DIY PD should be flexible

3e.i Availability of time resource may limit impact of DIY PD

3e.ii Participants must be given ‘space’ to undertake DIY PD

4b.i Observations

4b.iii Coaching

4b.v University partnership work

4b.vi Practitioner enquiry

4b.viii Professional conversations

4c.i Teaching Learning Community/Professional Learning Community

4c.vi Official organised events (e.g. school based CPD) initiated by teachers

4d.i MOOCs or online learning units

4d.iv Podcasts

5a.i The causal factors for an increased prevalence of DIY PD should be explored

5a.iii Context (e.g. national or local regulation) may influence or have an impact on DIY PD

In contrast to the large number of statements resulting in a high degree of agreement only one statement received less than 10% agreement:

3d.ii DIY PD should be situated away from the formal workplace

The final group of statements were classed as ‘disputed’ as these had between 40 and 60% agreement/disagreement.

1a.i DIY PD should be regarded as a discrete form of PD

1a.ii DIY PD should not be regarded as a discrete form of PD

1a.iii There is value in recognising this definition of PD as discrete from other forms of PD

1a.iv Classification or definition of forms of PD may limit the value of PD

1b.vi The DIY term potentially devalues this form of professional development

3a.vii DIY PD needs to be ‘untimed’ or ‘untidy’

3a.viii DIY PD may result in less quality PD (e.g. ‘Top tips’ sessions)

3d.vi If DIY PD involved transitory or intermittent engagement this would be a weakness

All other statements showed either a moderate degree of agreement (61-89%) or moderate degree of disagreement (11-39%). This still left a large number of statements to consider in discussions, and therefore a further data reduction stage was deemed necessary, this time utilising mode and median.

Individual question results based on mode and median

The use of mode/median agreement was applied to all the statements, which revealed that 19 statements that had a binary mean of 1.0 (100% agreement) also had a mode/median agreement of agree (not strongly agree). As a 'sense check' the arithmetic mean (based on scores of 1, 2, 3 and 4 for each option) was calculated; statements with a score of between 3.0 - 3.5 were found to correlate to mode/median of agree; whereas statements with a score of between 3.5 – 4.0 were found to correlate to mode/median of strongly agree. This allowed further funnelling for statements with strongest level of agreement; only 9 statements (see below) fitted the criteria of having a binary mean of 1.0 and a mode/median of strongly agree.

The entire data set was then considered to see where mode/median matched. For 68 of the statements this analysis (mode and median) matched. However for five statements there was a discrepancy between mode and median. For three of these (3a.i, 4b.ix, and 5a.ii) this was between agree and strongly agree, suggesting only a minor discrepancy. For the final two statements the mode and median provided conflicting results and a discrepancy between agree and disagree. These were:

3a.vii DIY PD needs to be 'untimed' or 'untidy'

3a.viii DIY PD may result in less quality PD (e.g. 'Top tips' sessions)

This suggested that these were the most evenly contested statements and as a result will be considered in detail in the later discussion.

Final identification of notable statements (using mode and median and mean average)

Ultimately the binary mean was utilised along the mode and median data to identify notable statements. The final selection criteria was as follows:

- Highest level of consensus with strongest disagreement = Mean average (binary data) <10%, and mode and median = disagree or strongly disagree.
- Highest level of consensus with strongest agreement = Mean average (binary data) 100%, and mode and median = strongly agree.
- Overall lack of consensus ('disputed' by expert panellist group) = Mean average (binary data) between 40% and 60%, and mode and median disagree or agree.

It is important to reiterate that the term '*notable statements'* is not a recognised term from research literature but utilised here to distinguish statements, based on the data, seen as most noteworthy of discussion. The term 'notable' was selected so as not to infer a qualitative judgement (as would be the case with 'good' or 'bad' or 'important' or 'not important'). As explained earlier the main reason for this approach was to reduce data which is an important part of the analysis process (Onwuegbuzie, 2000). Furthermore the Delphi method is designed to reach a consensus (Linstone and Turoff, 1975) and so it was important that statements with highest and lowest agreement were clearly identified. This analysis resulted in the final bank of statements being selected for greater analysis and discussion.

Overall lack of consensus (so 'disputed' by expert panellist group):

1a.i DIY PD should be regarded as a discrete form of PD

1a.ii DIY PD should not be regarded as a discrete form of PD

1a.iii There is value in recognising this definition of PD as discrete from other forms of PD

1a.iv Classification or definition of forms of PD may limit the value of PD

1b.i The DIY term potentially devalues this form of professional development

3a.vii DIY PD needs to be 'untimed' or 'untidy'

3a.viii DIY PD may result in less quality PD (e.g. 'Top tips' sessions)

3d.vi If DIY PD involved transitory or intermittent engagement this would be a weakness

Highest level of consensus with strongest disagreement:

3d.ii DIY PD should be situated away from the formal workplace

Highest level of consensus with strongest agreement:

3a.v DIY PD should be relevant to the participant

3b.ii Agency (the capacity to act) is an essential element of DIY PD

3b.iv The participant must have ownership over this form of PD

3b.v The participant must be personally motivated to engage in this form of PD

3c.ii The opportunity for community or collaboration is an important element of DIY PD

3c.iv The participant should be empowered to engage in this form of PD

3c.v School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD

4b.viii Professional conversations

4c.i Teaching Learning Community/Professional Learning Community

Analysis categories for notable statements

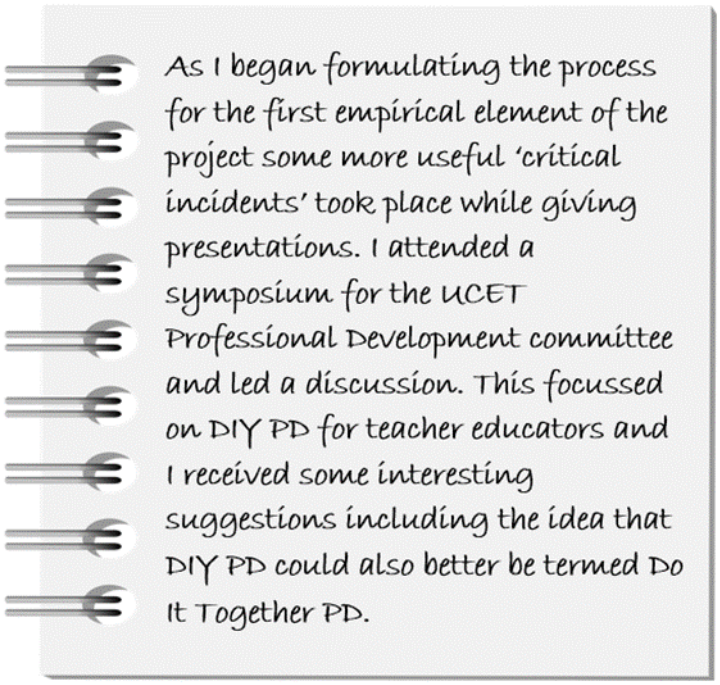
The 18 notable statements included 5 that related to the general concept or phenomenon of DIY PD, including terminology. The remaining 13 notable statements related to characteristics, activities and delivery factors. The subsequent sections of this chapter provide a further level of clarification before each is considered in detail, and discussed, in Chapter 6.

DIY PD as a concept or phenomenon

Amongst the notable statements 4 of these relate to the issue of DIY PD being a discrete category of professional development. This supports the finding that the idea or concept was disputed by some the experts. One explanation for this could be that, as a new or novel term, the experts were subjectively interpreting this

and projecting or creating their own view of this idea. This was a key objective of the research but raises concerns about limitations in the study design. It also suggests that, if this is a topic worthy of further research, then greater clarity in definition may be required. Evans (2014) supports this asserting that the field of educational PD is unclear with a wide variety of models, interpretations and definitions in published work.

As the issue of terminology had been anticipated, the remaining notable statement from this section referred specifically to the name DIY PD. The lack of consensus amongst experts extended to the term DIY; some experts saw no issue with the use of this term others saw it as problematic. This may be because 'doing something yourself' was associated with amateurism and so in turn could not be viewed as professional (some qualitative data at round 1 also pointed to this, see Appendix 8a). This was also identified during informal discussions with academics in this field, as the vignette below shows. There are implications for this, relating to nature of formality and structure of education, and so this issue will be considered in the discussion section later (Chapter 6).



The classification of DIY PD as a separate form of PD was clearly disputed and so this is the first key finding from the research project. However, the survey design allowed for expert participants to continue and identify key characteristics, activities and criteria. This is justified as the Delphi study is intended to investigate

potential future developments and the potentiality of concepts (Linstone and Turoff, 1975). The lack of a shared understanding occurs in many educational fields and may highlight an underlying issue of interpretation, such as with CLPL (GTCS, 2014b) or other terms. Teachers and policy makers appear to be drawn toward clearly definable ideas with measurable targets and outputs, for example the recently introduced Curriculum for Excellence Benchmarks (Education Scotland, 2017). Although, just because something is measurable or definable does not guarantee it has inherent value. This deeper problem within education may result from a misunderstanding that precision or accuracy correlates to validity or quality. Regardless of the underlying reasons for this situation the expert survey failed to reach a definitive conclusion on DIY PD as a distinct concept. This forms the first major finding of the research project and will be returned to, in depth, in Chapter 6.

Alternative terminology (teacher-initiated as preferred term)

Whilst carrying out this project a range of alternative terms were proposed for DIY PD such as ‘rogue’ or ‘radical’ PD. One problem is that language can be interpreted differently, for example ‘radical’, and can have both positive and negative connotations. The term radical has also been used when discussing the work of Paulo Freire (Mayo, 2004) and so could cause greater confusion in the current discussion, although given the bricolage methodology such overlaps or connections may enhance subsequent discussion adding theoretical depth.

In contrast to the subsequent sections, which discuss characteristics and forms of DIY PD, the issue of terminology was one that resulted in a lack of consensus. Only one statement was classed as notable and this will be discussed later (Chapter 6). Interestingly, given discussion in the earlier literature review, the terms ‘Professional Personal Learning’ and ‘Career-Long Professional Learning’ were seen to be less suitable terms than DIY PD, despite these being suggested by expert panellists during the first round of the Delphi study. This suggest the experts believe it *is* possible to distinguish between different forms of PD, and so this will be considered in the final discussions.

At this point it is worth briefly considering the very nature of labels and terminology (e.g. Do It Yourself or Do It Together).[34] Language and even interpretation of meaning, and hidden meaning, in specific words is highly subjective. Applying this to education both Freire (1985) and hooks (1992), building on the ideas of Gramsci (Dimitriadis and Kamberelis, 2006), identify the importance of hegemonic ideology; which in UK education is usually typified by that representing the interests of those from the white, male, and middle or upper classes. Consequently, it could be argued that applying a fixed term, or definition, is itself limiting as this will be proliferating the hegemonic ideological situation in which it evolves. This results in a paradox that if something is not named or defined no one would ever know what is being discussed. This philosophical argument could continue ad infinitum; the issue of definition of PD will be considered further in Chapters 6 and 7.

A further, albeit controversial, point to consider with terminology are issues of ownership. Within Scottish education the specific term 'Career-Long Professional Learning' (CLPL) is currently used, although how this differs from other examples or forms of PD or PL is not explicit. One explanation may be that there is a desire, from certain stakeholders, to 'own' terms. It seems natural that people want to names things, and academics may be particularly susceptible to this when developing new theories or creating models, as this may validate them as individuals, enhancing their personal power, even giving way to greater personal agency. In the current study this appeared to be the case as various alternative terms (for DIY PD) were offered, some of which the respondent had a personal stake in. A clear example being suggested alternatives of Teacher-Initiated Professional Learning (TIPL) and Personal Professional Development (PPD). This issue of ownership will be returned in the subsequent section (Chapter 6) when considering the specific characteristics of DIY PD. This point around ownership of terms is clearly an extremely debateable proposition, and based on personal observation, therefore this issues will not be explored in greater detail here, but will be returned to later.

Although only one of the statements relating to terminology was found to be 'notable' there was clearly a greater preference for the term 'teacher-initiated'. As

[34] At final draft stage my supervisor suggested I should have adopted an 'L'ensemble' methodology, instead of bricolage.

explored in the literature review the term teacher-initiated has appeared in literature (Loewen, 1996) but with differing meanings. So despite these challenges, based on the expert responses, it seems reasonable that this nomenclature could be adopted in future and is a key finding of the research.

Having discussed the terminology and general principle of DIY or teacher-initiated PD the next section will consider the characteristics of this form of PD.

Characteristics of DIY PD

The statements that related specifically to nature or characteristics of DIY PD included 6 classified as notable:

> 3a.v DIY PD should be relevant to the participant
>
> 3b.ii Agency (the capacity to act) is an essential element of DIY PD
>
> 3b.iv The participant must have ownership over this form of PD
>
> 3b.v The participant must be personally motivated to engage in this form of PD
>
> 3c.ii The opportunity for community or collaboration is an important element of DIY PD
>
> 3c.v School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD

To assist with coherence these statements will be discussed in the next chapter under the following general terms, based on the fact that there are overlaps between some:

- Relevancy
- Agency and ownership
- Motivation
- Collaboration
- Trust

In addition there were two statements from this section that showed lack of consensus, or were disputed by the experts, namely:

3a.vii DIY PD needs to be ‘untimed’ or ‘untidy’

3a.viii DIY PD may result in less quality PD (e.g. ‘Top tips’ sessions)

The issue of DIY PD needing to be ‘untimed’ and ‘untidy’ could have been disputed by experts as the phrasing ‘needs to be’ was included in the statement and if ‘may be’ or ‘could be’ was used instead the results may have been different. However, as explained earlier, in the interest of authenticity, the phrasing of the statement was based on Delphi round 1 responses. The issue relating to lower quality PD may reveal a concern of control and possibly formal validation within the PD process. Both these statements show a tension between the desire for, or concern over, informality within the wider idea of DIY PD. These two statements will be discussed under the headings:

- Structure and formality
- Quality may be impacted

Possible DIY PD activities and delivery factors

The section of statements relating to activity, or issues connected with delivery, largely showed agreement, and of these the notable statements were:

Highest level of consensus with disagreement:

3d.ii DIY PD should be situated away from the formal workplace

Overall lack of consensus:

3d.vi If DIY PD involved transitory or intermittent engagement this would be a weakness

Highest level of consensus with agreement:

4b.viii Professional conversations

4c.i Teaching Learning Community/Professional Learning Community

These statements suggest that DIY or teacher-initiated PD would be exemplified by professional learning conversations and learning communities highlighting the

importance of collaboration or collegiality through dialogue. There was a high consensus of disagreement that DIY PD *should* be situated away from the workplace, in other words locating DIY or teacher-initiated PD within the workplace was *not* seen as problematic. The one notable statement in this section which was notable for being disputed related to transitory or intermittent engagement, and this will be considered later.

The following headings will be used in the subsequent discussion:

- Professional conversations
- Learning communities
- Situated away from work not essential
- Weakness possible due to intermittent or transitory engagement

Disputed (other) factors[35]

The final category or group of statements (Table 6) presented to the expert panel at round 2 related to 'disputed factors' (e.g. causal factors should be explored, social fracturing may be a cause, context may influence) and none of these were classified as 'notable'. However, the responses to these statements will be introduced in the subsequent section as appropriate, if there are implications for other statements.

Data from round 2 Additional comments question

The round 2 survey also included a free text response option and gave the experts the opportunity to provide any further details or provide greater clarification to earlier answers. A risk of considering these qualitative responses at this round was that they would be given greater credence when continuing with more detailed analysis, or may have influenced the researcher (i.e. myself) resulting in only seeing what was expected (Morse, 2015) so this risk was kept in mind throughout the subsequent analysis.

[35] I acknowledge this term may cause confusion as 'disputed' is also being used to refer to statements where expert opinion was split. A better term for this final section of statements may have been 'other issues' or 'additional considerations'. However, as this was the term used in the original research design it has been retained.

Only 6 respondents opted to complete this optional question and these responses were summarised as follows:

- Acknowledgement comment (neither positive nor negative).
- Positive comment about concept or phenomenon.
- Developmental comment about concept or phenomenon.
- Potential issues with research design.
- Potential issue with terminology.
- Potential issues with concept or phenomenon.

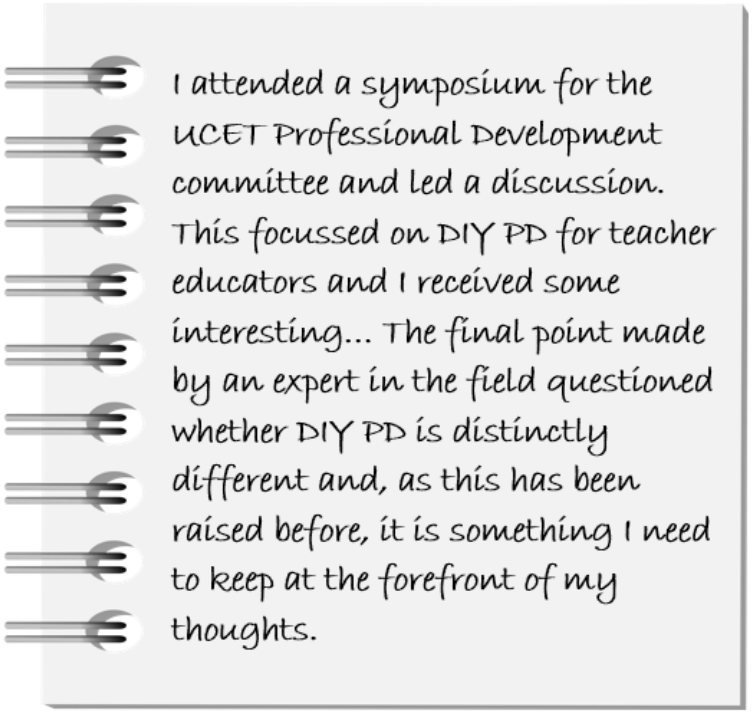
The acknowledgement comment thanked the researcher for involving them and a second participant made positive comments about DIY PD. Another participant provided additional suggestions about the concept of DIY PD and the same participant also commented that the process of being involved in this study had helped them reconsider their understanding of the topic. Of the other responses one considered the design of the questionnaire, reiterating potential limitations identified earlier at the design stage, adding to methodological rigour through member checking (Morse, 2015). However, as only one respondent raised this as an issue an assumption was made that most of the experts were content with the methodological approach. Another respondent raised the issue of terminology pointing out that they preferred their own term Personal Professional Development (or PDP). The final respondent gave detailed feedback on the proposed phenomenon of DIY PD and highlighted a large number of paradoxical tensions with this concept and within the general subject of teacher or educator PD and these ideas will be drawn on and used in later discussions.

Chapter 6 – Discussion of DIY (or teacher-initiated) PD as concept or phenomenon

This chapter addresses the first two research sub-questions, namely: SQ1: What are the key characteristics and features of DIY PD activity? and SQ2: What are the activities and delivery factors associated with DIY PD?

DIY or teacher-initiated PD as a concept or phenomenon

As discussed in the previous section there was some uncertainty amongst the experts that DIY or teacher-initiated PD merited a separate categorisation within professional development. This question was one that kept resurfacing, beyond the confines of this research, as the vignette below shows.



From the results of the Delphi study all bar one participant proceeded to complete the questionnaire and identify the characteristics or activities which DIY or teacher-initiated PD could involve. Therefore, the proceeding chapter will consider these factors, classified as notable, based on the results of the Delphi study.

Notable characteristics, activities and delivery factors

The 13 notable statements (out of a total 73 statements) identified in the Delphi study will now be discussed under the summary headings that represent these

statements. In addition, where appropriate referral to the other statements will be made if relevant to the points under discussion, especially as many of the statements had points of overlap. In addition links will be made to literature and theories identified earlier and, as outlined in the literature review, ideas from critical pedagogy will provide a theoretical lens. The perspectives and theories that will be incorporated include: dialogue, banking (both Freire, 2000) and conscientization in education (Freire, 2013), commodification and de-schooling (both Illich, 1971) and engaged pedagogy (hooks, 2014). Furthermore, where appropriate, other educational and sociological theory, such as power and cultural capital, will be utilised, in an attempt to examine the key issues. These have emerged during the analysis process and illustrate the iterative nature of the study. As will be discussed later, the issues of agency and ownership together with empowerment and trust are closely related, so have been combined to form a single heading. This is justified, as pragmatic bricolage may involve assembling or piecing together ideas (Duncan, 2011). This resulted in 11 statements which were separated in to two sub-groups relating to characteristics, and activity or delivery factors, of DIY PD.

Notable characteristics:

- Relevancy
- Agency and ownership
- Motivation
- Collaboration
- Trust

Notable characteristics (lacking expert consensus):

- Structure and formality
- Quality may be impacted

Notable activity factors:

- Professional conversations
- Learning communities

Notable delivery factor:

- Situated away from work not essential

Notable activity or delivery factors lacking expert consensus:

- Weakness due to intermittent or transitory engagement

Key terminology

The first finding from the data is that terminology and shared understanding can be problematic. Specifically this refers to the term DIY PD and the preferred term teacher-initiated PD, however this issue also applies to characteristics, factors and activities associated with this form of PD. This finding also reflects the assertion, by Weston and Clay, that terminology relating to PD and teacher learning has become an 'acronym soup' (2018, p.5). O'Brien and Jones (O'Brien and Jones, 2014) highlight, from an academic perspective, how, internationally, the labels professional development and professional learning are adopted and interpreted, the conclusion being this goes beyond semantics. The issue of terminology, vocabulary and discourse are crucially important with Priestley, Biesta and Robinson (2015) identifying that understanding *how* things are said is as important as *what* is said. Where necessary, in the relevant sections (for example with Agency and Ownership, or Collaboration), these terms are explored and defined. If the term is generally accepted within literature (for example Relevancy or Motivation) an understanding is accepted. This chapter will now continue with a discussion of the notable characteristics.

Discussion of notable characteristics

This section addresses SQ1 - What are the key characteristics and features of DIY PD activity?

The notable statements with a high degree of agreement will be considered, then those which were notable for a lack of consensus, and finally those which were notable because of a high level of disagreement with the statement.[36]

[36] To provide a more intuitive structure for the reader, these statements will be discussed in a slightly different order than they appeared in the original survey.

Relevancy

The first notable characteristic of DIY PD is relevancy which is based on the statement: *DIY PD should be relevant to the participant.*

Nature of relevancy

The term relevancy is relatively straightforward and indeed published research into teacher PD regularly uses the term without questioning the meaning (e.g. Kennedy, 2011). Therefore, a formal definition will not be provided during this discussion as the assumption is made that there is an implicit understanding of the term. The inclusion of this characteristic, within DIY or teacher-initiated PD, may seem obvious as teachers would only initiate engagement with PD if they determined it was relevant. Adding weight to this, Murphy and de Paor (2017) propose that teacher PD may not succeed if it is not what the teachers actually need or want.

The importance of relevant topics to learning has long been accepted for students and pupils (e.g. Carraher et al., 1985; Hiebert et al., 1996) and within the Scottish school context one of the key principles of curriculum design is ‘Relevance’ (Education Scotland, No date). Evans’ (2014) observation that PD often focuses on practical or behavioural factors may be due to a wider view in education that PD should have an explicit link to practice. Applying this principle to specific examples of professional development the formal, academic or university based models may be less relevant, whereas models utilising action research may be perceived as more relevant (Kennedy, 2005). Despite this, data from the current study suggests that DIY PD may have some similarities with action research (statement 2a.v) although the statement did not receive full agreement so this characteristic will not be discussed in greater detail. It must be acknowledged though that there is significant, recent research and debate into teachers as researchers (Jones, 2015) therefore this link to DIY PD may merit further future investigation.

Relevancy as a component of DIY or teacher-initiated PD

The issue of relevancy could apply to the content that teachers deliver to pupils, either subject or pedagogical content knowledge (Kind, 2009), or may relate to meta-learning (Watkins, 2015) and how they learn about themselves as learners. The relevancy of ‘learning how to learn’ may not be obvious to all teachers but

may be more beneficial than simply enhancing subject knowledge; as sound subject knowledge does not guarantee capability in teaching (Kind, 2009). This form of meta-learning (Watkins, 2015) is represented within the attitudinal development component of the Evans' (2015) model, with the ability to the identify what is relevant featuring in the perceptual sub-component.

A common theme in critical pedagogy is that learning should be real or relevant. Freire illustrates this when discussing the 'culture circles' which he utilised as part of an adult literacy programme in Recife, Brazil (Freire, 2013). The images used to stimulate dialogue were clearly grounded in situations that meant something to the participants, who then offered the topics for debate (including political issues). This resulted in challenging, but relevant content, and subsequently led to learning. Freire's theories have connections to the work of hooks (e.g. hooks, 2014) who introduces the idea, usually in a university setting, of teachers as learners. In hooks' work the importance of popular culture, or parental involvement is also highlighted, so the connection can be made between learner and teacher (Berry, 2010). Therefore, the issue of relevance relates more to an individual's personal interests. Crucially if this principle is applied to professional development, then an understanding of teacher interests and culture is required.

As relevancy is very personal to an individual, and is dependent on the situation, one approach may be to state that teachers can self-define or dictate what is relevant to them. If they believe something to be relevant then it should be accepted as such. It should be noted that this leaves the potential for teachers to opt out of topics or subjects leaving these areas undeveloped. This was highlighted to me during a discussion at an academic conference on teacher education (see vignette below):

This leads on to the next section where the ability of teachers to identify personal need within PD will be discussed.

Teacher ability to identify relevancy within DIY or teacher-initiated PD

With the issue of planning PD, relevancy could be problematic due to discrepancies between perceptions of the deliverers and participants. However, assuming relevance is self-determinable then self-efficacy and autonomy, and the associated issue of agency, will be essential factors, and these are considered subsequently. Considering the wider PD agenda, in education this presents issues as school leaders, managers and policy makers (and even some teachers) may disagree with the self-determining view of relevance, arguing that external agencies must dictate what is relevant. This may reflect an underlying culture of control and the acceptance of hierarchical systems or structures within education. Therefore there are implications for another of the key characteristics, trust, which will be discussed in a subsequent section.

Further to this point, the capability of individuals to know what they need to know can create challenges. The Dunning-Kruger effect proposes that:

> *…incompetent individuals have more difficulty recognizing their true level of ability than do more competent individuals and that a lack of metacognitive skills may underlie this deficiency. (Kruger and Dunning, 1999, p.1122).*

This theory proposes the solution that people must become more aware of their incompetence, before they become more competent. Paradoxically this also

presents the opportunity to challenge complacency, and introduce new ideas Thus DIY or teacher-initiated PD, or PD of any sort, could help address this issue, especially when interactions with others is included via collaborative practice – widening experience and deepening understanding.. In fact, this does not have to involve other teachers and reflective practice (Schon, 1984) can assist teachers in developing awareness and better ability to identify what is relevant to them. The inclusion of the reflexive diary (extract available in Appendix 2) element in the current project provided such an opportunity, and the development of self-awareness and implications for this are considered in Chapter 10.

Conclusion to discussion of relevancy within DIY or teacher-initiated PD

The place of relevancy, within the concept within DIY or teacher-initiated PD, is extremely challenging due to the unending potential interpretations or what is relevant and who should decide. The discussion of this characteristic will now be left, but the implications and links to other characteristics will be made where appropriate. For example another notable characteristic of DIY PD, discussed subsequently, is motivation and within Deci and Ryan's Self-Determination Theory (Deci and Ryan, 1985) of motivation the issue of relatedness is explicitly referenced. This was identified during research into a research-engaged teacher programme which utilised the cascade approach to PD. Here the person responsible for cascading the PD back to other staff needed to be personally interested and engaged or the initiative was less likely to be successful (Burstow and Winch, 2014). Applying this to DIY PD may explain why teachers are seeking out self-directed learning and development opportunities and this may be because there is complete control for the teacher to decide what is, or is not relevant.

Therefore, if a clear conclusion is to be drawn from this discussion then it would be that teachers should be able to decide or dictate what is relevant themselves, which leads on to the next notable characteristic of agency and ownership.

Agency and ownership

The next notable characteristic of DIY PD is based on two notable statements: *Agency (the capacity to act) is an essential element of DIY PD* and *The participant must have ownership over this form of PD.*

Definition and nature of agency and ownership

The notable statements referring to agency and ownership are further examples of where terminology presents a challenge to deeper understanding. (The issues of shared understanding will be addressed in Chapter 7). To address the issue of terminology, at round 2 of the Delphi study additional clarification was given for the participants, which identified agency as '*the capacity to act'.*

These terms are being discussed together as there are clear similarities and ownership has been seen as part of teacher agency (King, 2013). Teacher agency, it is argued, is relatively under-researched (Priestley et al., 2012), which may be why definitions and interpretations differ. Within the context of teacher PD research the term 'ownership' has rarely been used explicitly and where passing mention is made (Fraser et al., 2007; Hairon and Dimmock, 2012; Hord, 1997; Tam, 2015) a common understanding of meaning is assumed. Despite this uncertainty, an assumption has been made in the current study that the participants had sufficient knowledge to understand the terms because a key selection criteria for Delphi study experts is their ability to make informed judgements on the topic (Linstone and Turoff, 1975). The subsequent discussion will consider implications for DIY or teacher-initiated PD.

Understanding agency within PD

Kennedy (2014) refers to agency whilst considering the spectrum of teacher CPD models which move from transmissive to transformative. Teacher agency, Kennedy argues, is something that acquires greater significance, or is developed to differing degrees by each style of model. In contrast to the attention given by some authors to agency other models of PD do not include this explicitly. In their review of five significant PD models Boylan et al. (2017) highlight that agency is not accounted for, although they argue *implied* inclusion within some models.

Priestley et al. (2012) explore agency from an individual perspective, stating it is something that is concerned with the action of engagement and not some innate trait, so 'is not something that people can have; it is something that people do'. (Priestley et al., 2012, p.3). This view of agency means that the reflexive and creative actions of the teachers are imperative. Drawing on the broad principles of agency it is informed by experiences, so is iterative but with a projective element; put simply, agency is based on hopes and fears but is combined with a

practical-evaluative element requiring value judgements from the individual (Emirbayer and Mische, 1998). This practical-evaluative element also has some obvious similarities to perceptual and (e)valuative elements, within the attitudinal component, of the Evans' model of PD (Evans, 2014) with implications for the self-determination theory of motivation (Deci and Ryan, 1985). The place of agency within DIY or teacher-initiated PD will be considered next.

Application of agency to engagement with DIY or teacher-initiated PD

The implied lack of compulsion and necessity with DIY or teacher-initiated PD means the beneficiary has personal choice to make an evaluative judgment, with them also 'owning' the values. This could be to opt into PD activity but crucially to also opt out, which is much less likely to be the case with formal, institutionally directed PD.[37] This has implications for the level to which someone chooses to engage with PD, for example during TeachMeets attendees can present or just attend and observe (Wikipedia, 2010), and EdCamps have the law of two feet where participants are encouraged to leave sessions that seem 'biased, of low quality, or less than useful' (Swanson, 2014).[38] Similar distinctions exist within social media, utilised for PD purposes, such as with Twitter where users may engage proactively in conversations or simply 'lurk' (Jefferis, 2016, p.222). Obviously this could also be the case for more formal PD activity but also has implications for the implicit and informal forms of learning when applied to PD (Evans, 2016). For example, an informal 'photocopier conversation' (McKinney et al., 2005) on a professional topic can be easily opted in or out of, whereas a formal school facilitated PD session may not. Of course, it is important to note that researching the engagement or disengagement with photocopier, corridor or staffroom chat (McKinney et al., 2005) would be extremely problematic. This would be highly subjective, and measuring if someone opted out would be a major challenge. Furthermore ethical concerns could be raised if covert observation was utilised, whereas overt observation may influence the results (Cohen et al., 2013).

[37] Although anecdotal evidence suggests some teachers may opt out by 'tuning out' of structured or formally organised PD.

[38] It would be interesting to investigate what the result would be if the 'rule of two feet' existed in academia for lectures and conference presentations.

Barriers to teacher agency within PD

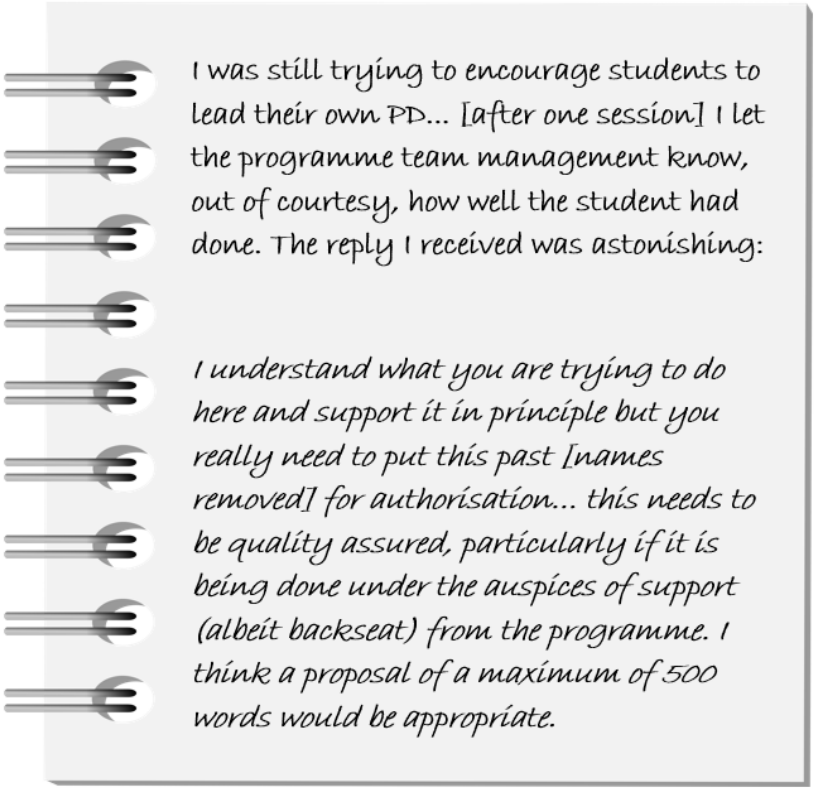
In contrast to DIY or teacher-initiated PD, formal development activity, as discussed in the earlier literature review, is influenced by policy makers. The lack of direct policy maker involvement with DIY or teacher-initiated PD may facilitate the development of agency. Nevertheless, this could present a risk as policy makers, or managers, within education may seek to undermine those taking part in DIY or teacher-initiated PD thus weakening the capacity to achieve agency. Whilst acknowledging the influence of policy on teacher agency, Edwards (2015) challenges research that assumes policy considerations should lead PD activity, suggesting that teachers respond to different phenomena in different ways. Rather than focusing on the stimulus or impetus for agency, Edwards argues the process and in particular 'dialectic of person and practice' (2015, p.782) should be considered. This notion of dialectic within teacher-agency will be discussed later where there are overlaps to the issue of trust and hierarchical or institutional power (see Chapter 8 – Emergent Themes).

Whilst investigating peer-to-peer PD (learning rounds) in the Scottish education setting, Philpott and Oates (2017) identified that, despite support from other schools and national CPD co-ordinators, participants did not necessarily develop a deeper understanding; the proposed explanation being that a lack of alternative discourse was a barrier to agency. Philpott and Oates (2017, p.10) go on to suggest that this could be a result of 'a culture of performativity'; which may, ironically, stem from a lack of agentic feeling. Thus, the inability to break out from this negative cycle may impact on teacher-initiated PD occurring at all. Alongside this a dominant discourse becomes self-perpetuating with implications for promotion of individuals within a system who think a certain way and resist the inclusion of alternate views. This promotion of certain individuals, with narrow views, has clear similarities to the idea of GOBSATs (Lloyd, 2001) and hegemony, both discussed earlier. The ultimate impact of this may be a divergence of the dominant group and teachers who operate within this and a separate group of teachers, who feel free to work toward achieving agency but have to do so within their own created environments. If this is the case those engaging in DIY or teacher-initiated PD may simply be an interesting anomaly within the wider teaching community.

Ownership of DIY or teacher-initiated PD

Ownership, which King (2013) argues is a constituent of agency, has clear connections to the previous factor of relevancy. When learning is relevant and situated within the learners' natural environment, for example in Freire's culture circles (Freire, 2013), then the individuals collectively 'own' the learning space. DIY or teacher-initiated PD may present teachers with a similar opportunity. However, an alternative way of viewing ownership may be that genuine ownership comes from within, requiring no external involvement, whereas Freire's culture circles were co-ordinated and facilitated by other individuals (such as Freire himself).

Ownership on an internal level, when considered within the field of psychology, is often equated to possession (Pierce et al., 2003). Control over an object leads to feelings of ownership and, if applied to traditional models of PD, the activity would be owned by the delivery agent, and crucially not the recipient. Developing this psychological interpretation of ownership it is proposed 'that when we inhabit something, that something is no longer an object for us, instead it becomes a part of us' (Pierce et al., 2003, p.14) which has quite profound implications for teacher PD. The idea that physically inhabiting something, such as a network or online group, leads to internalised ownership may explain the apparent increased occurrence of this form of PD. However, tensions may emerge when the ownership of PD is disputed, an idea which was introduced in the previous sub-section. From personal experience I have observed this within teacher education as the vignette below illustrates. Whilst trying to support students to lead their own PD activity this was met with resistance, and I suspect desire to retain ownership of this, from programme managers.



This example, I believe, raises the issue of control and trust (in this case of myself and the student), which be discussed later in this chapter as another notable factor. The link from this issue of ownership to success of informal PD activity is identified in a recent small-scale study (within a single secondary school in England) which suggested:

> *Formal activities tended to be less successful if the aims were not shared and the teachers felt the learning was imposed. Informal activities were more successful as they were normally instigated by staff with their own professional development in mind (Loneragan, 2016).*

Risks associated with ownership

In a practical sense, when considering a physical item, disputes over ownership can be settled using laws of the relevant jurisdiction. Conversely, when the object is something intangible, such as an episode of learning, the terms of ownership are extremely hard to define. This raises deep philosophical questions for example if an individual ‘takes’ responsibility and that one person ‘owns’ a situation then by definition they are then depriving another of the opportunity for ownership. However, it is possible that two individuals may perceive the notion of ownership differently and both believe that neither of them has control of a

situation. These philosophical problems of individual interpretation mirror the problems around definition of PD.

It has been argued it is a relatively recent development (Bennett, 2017), given the source is a tweet from Tom Bennett, this could be disputed. Indeed anecdotal evidence from teachers suggest they has always been some engagement in self-directed development activity, and there is evidence that teachers have been involved in construction of PD opportunities for decades (Little, 1993). One of the challenges in validating this either way is the paucity of research and evidence in this field (see Chapter 2 where the historic evolution of teacher PD was explored).

However, if the assertion that teacher-led PD has become more widespread is accepted this presents an issue around control over the activity. Interested parties may develop a desire to own or control the activity as awareness grows. For example those working with governmental organisations or private consultancies may see opportunities. Viewing this via the theoretical perspectives of Freire (2000) a group or community aiming to develop conscientization who nominate a leader for training may then find the leader returns and uses the skills to dominate their former peers or allies. Personal anecdotal evidence, from events such as TeachMeets, suggests that certain individuals can dominate or control these spaces. This brings to mind George Orwell's Animal Farm, 'four legs good, two legs bad' (Orwell, 2000, p.21), in the respect that traditional approaches and hierarchical groups are rejected only for the PD activity to be taken over by another, albeit different, group of individuals.[39]

This issue of ownership is a common theme within critical pedagogy. In particular Illich's ideas of dominant professions, which includes educators, suggests that society is told what to learn by the experts.[40] In addition the idea of a post-professional ethos (Illich, 1977), where individuals or groups reject the societally dominant professionals, may have similarities with those undertaking DIY or teacher-initiated PD. This presents a paradox as in the current study experts, all of whom were educators of some sort, were used to analyse DIY or teacher-

[39] TeachMeet events, which started at a 'grassroots' level, have recently been organised by organisations such as SCEL, or incorporated within events such as the Scottish Learning Festival. Clearly this is a highly contentious suggestion, based on anecdote, and so should be considered with caution.

[40] This brings to mind the situation that exists with NASA who provide the expert research and knowledge on space exploration. And it is this research and knowledge that dictates their own future funding.

initiated PD. Applying the ideas of Illich the current study is precipitating the problem, not providing a solution. Either way, the educational consultant Paul Garvey (2017) argues the traditional 'owners' of PD are *not* best placed to own teacher development:

> *In the past, the CPD on offer has not been what individual teachers may need. It has been corporate for the school and has often included expectations, which, to be blunt, grated with teachers who did not see the point of them… Someone else has been in charge of their [the teachers] professional development and I believe there is a better way (Garvey, 2017, p.106).*

This appears to suggest not just a renaming of teacher PD but an entirely different conceptualisation. This involves moving from the traditional top-down approach to activity that best serves the teachers' needs, dictated by those teachers. If this is to occur then the current powerholders in education, who 'own' PD may be reluctant to relinquish control, possibly setting up a battleground over the future professional development of teachers.

Conclusion to discussion of agency and ownership within DIY or teacher-initiated PD

Summarising the notable theme of agency and ownership it seems likely that personal power, perceived or otherwise, is important. Alongside this the issue of personal awareness, of self and others, is significant (Ketelaar et al., 2012). An issue that has not been explored here is whether learning is consciously, subconsciously or even unconsciously agentic (Rogers, 2014). Ultimately, the ability and opportunity to achieve agency in whatever way, is central to DIY or teacher-initiated PD.

A final point to consider, when discussing agency, is how related factors such as flexibility, or choice, and accountability have implications for the bricolage methodology in the current study. As Kockelman et al. (2007) suggest agency can be understood as:

> *… the relatively flexible wielding of means toward ends. For example, one can use a range of tools to achieve a specific goal, or one can use a specific tool to achieve a range of goals. In this way, flexibility may involve having lots of options open or having a strong say in which particular option will be acted on. (Kockelman et al., 2007, p.375)*

In other words the presence of flexibility and ability to select tools as required (either form of PD or research approach) exemplifies agency. In this way the adopted methodology for the current doctoral research study is facilitating my own agentic development.

The issue of ownership has also been studied in relation to motivation (Pierce et al., 2003) and this leads onto the next notable characteristic.

Motivation

The next characteristic of DIY PD is motivation and is based on the notable statement: *The participant must be personally motivated to engage in this form of PD.*

Nature of motivation and personal interpretation

The link between motivation and teacher PD has been highlighted in a variety of literature covering an extended period of time (e.g. Beltman, 2009; Day, 2002; Knowlson, 1974; McMillan et al., 2016) and as with the earlier notable characteristic of relevancy the meaning of motivation is implicitly accepted in most teacher PD literature. Some models of PD, for example within the Triple Lens Framework (discussed in Chapter 2) developed by Fraser et al. (2007), explicitly incorporates motivation. In the development of the componential model (also introduced in Chapter 2) motivational factors feature as key elements within the area of teacher attitudinal development (Evans, 2002). Despite this, Appova and Arbaugh (2017) argue there is a gap in academic literature considering the factors that motivate teachers to engage in PD. Clearly this is a complex and multi-faceted area within teacher PD.

As with the earlier theme of relevancy, the significance of motivation to teacher-initiated PD may seem obvious as, by its very nature, development activity will be led by the teacher. Therefore, intuitively it seems likely that somebody would elect to engage with PD only if motivated to do so. This issue of optionality in CPD has long been discussed and debated and is represented by differing levels of requirement for CPD engagement in different education systems around the world (as explored in Chapter 2). The issue of optionality, versus compulsivity, clearly overlaps with factors such as control, agency and ownership and will also influence motivation.

This idea of teachers being motivated by activity they deem relevant may be better understood through the concept of equifinality (Ryan and Deci, 2000). Applied to social science this is the idea that different routes can be taken to achieve the same end-point. For example whilst attempting to develop understanding of formative assessment, for developmental purposes, some teachers may be motivated to engage with practical workshop style sessions whereas others may be better motivated by observation of practice. As a result an attempt to structure or formalise activity that will motivate all teachers is extremely challenging, and may even prove to be counterproductive. On a fundamental level Dörnyei and Ushioda (2013) suggest general teacher motivation can be informed by the motivation to teach, or the motivation to stay in the profession. Therefore if this can be applied to engagement with teacher PD the impact of personalisation and choice on motivation is an important consideration and will be discussed later. Key theories of motivation, applied to education, include Herzberg's analysis of intrinsic and extrinsic factors (Herzberg et al., 1993) and Deci and Ryan's Self-Determination theory (SDT) (Deci and Ryan, 1985). These will be considered in the subsequent consideration of motivation and DIY or teacher-initiated PD.

Motivational theory applied to DIY or teacher-initiated PD

Recent international research has focused on teacher motivation (e.g. Gemeda et al., 2014; Han and Yin, 2016; McMillan et al., 2016) with the study by McMillan et al. (2016) suggesting that teacher choice is itself an important motivating factor. Using Herzberg's motivation theory (Herzberg et al., 1993), factors such as possibility for growth, advancement and achievement were ranked highly and above any extrinsic hygiene factors (such as salary, status or job-security). Within classic motivational theory the importance of external (e.g. Bassett-Jones and Lloyd, 2005) and internal motivating factors (e.g. Herzberg et al., 1993) has been investigated with a long-running debate over whether extrinsic rewards motivate or demotivate. Something that does not appear to be disputed is the importance of intrinsic factors on motivation and so this will be focused on in relation to DIY or teacher-initiated PD.

This lack of clarity between intrinsic and extrinsic motivations is further complicated when considering Self-Determination Theory (SDT). This theory dates back to the early 1970s (Deci, 1971), and has been applied to teacher

education in different contexts (e.g. Eyal and Roth, 2011; Holme et al., 2016). SDT refers to a feeling of competence and relatedness (important given the concept of relevance discussed earlier) but also has implications for factors such as self-awareness or self-consciousness. A sub-set theory of SDT is Cognitive Evaluation Theory (CET) where there is an innate psychological requirement for both competence and self-determination (Deci and Ryan, 1985). Central to this is the suggestion that events which increase perceived self-determination, via perceived locus of causality (or control), will enhance internal motivation. This theory has clear implications for teacher-initiated PD because as control moves beyond the participant then intrinsic motivation decreases. However, as intrinsic motivation increases so the perception of control rises. If this is taken to a natural conclusion it is possible that, within the wider teaching community, two stratified groups could emerge, each positioned at opposite ends of an intrinsic/extrinsic motivational scale. This may be what was being observed within the dichotomous categorisation of teachers who engage in PD activity, classed by Joyce and Showers (Joyce and Showers, 1988) as ‘gourmet omnivores’ or ‘reticent consumers’. The locus of causality, which can manifest itself as personal control, also overlaps to related factors of agency and ownership (discussed earlier), and so the ability to self-determine will impact on engagement with teacher-initiated or DIY PD.

Impact of motivation on DIY or teacher-initiated PD

Considering how motivation impacts on the activity of teacher development, Ng (2010) suggests there is little understanding of the factors that motivate teachers to learn professionally and engage with PD. If this same lack of understanding exists amongst policy makers and educational leaders then the challenges to develop effective formal PD will become greater still. There is also an argument that PD may not result in an impact on learner outcomes *because* motivation of teachers is not well understood (Guskey, 2000). If this is the case for formalised teacher PD this could be the same for less formal versions too.

Using the theoretical perspectives covered earlier, the experts in the current survey may have believed intrinsic motivation was fundamental to DIY or teacher-initiated PD. The wider issue of intrinsic or extrinsic motivation is significant as a formal organisation (e.g. Local Government) leading the PD activity, and requiring engagement, could also be the one paying the salary or issuing contracts. In other

words if a teacher does not engage, their job may be at stake, which would clearly not be the case with entirely voluntary forms of PD. This introduces the idea of power structures, individuals in positions of power and the impact on teachers engaging in PD, a point that will be returned to later.

This personal perceptive element of motivation, in particular choice and interest in the area of study, plays an important part in choices over CPD engagement (McMillan et al., 2016). In addition Ng (2010) has identified the issue of career advancement also ranks highly, although this factor alone cannot provide motivation. Alongside the personal motivation factors, McMillan et al. (2016) identify school and system-wide motivation factors can align themselves more with external motivation. They also point out that a compulsory or organised forms of CPD did not necessarily preclude intrinsic motivation with teachers. Within the current research this has implications for two statements[41] which referred to personal choice (statement 3b.vi) and the commitment which a teacher should make (statement 3b.vii). This highlights the tensions between formality and requirement, and freedom and choice and that teacher development is a highly complex topic. These issues also link to Evans' componential model (2014) which includes attitudinal development and the sub-component motivation. The conclusion here is that if intrinsic motivation and self-determination factors are crucial within teacher-initiated or DIY PD then a far greater understanding of this is required by the individual teacher.

Returning to the current study it is possible that the expert group themselves come from a group with a high degree of motivation. If this was the case it is likely they would value motivation, and specifically intrinsic motivation. In addition most of the experts held certain levels of responsibility within education (albeit in differing settings) and so high levels of intrinsic motivation might explain *why* they are in those positions. This is a methodological problem with the current study and must be considered when interpreting the overall findings.

Motivation and emancipation within DIY or teacher-initiated PD

The characteristic of motivation can be considered using the theories of the critical pedagogists. The importance of motivation has implications for the

[41] Although these were not classed as notable statements they still had a high level of agreement form the experts (see Chapter 5).

application of hooks' (2014) ideas of education as transformational freedom in learning (for the learner). In particular the term 'education as the practice of freedom' (hooks, 2014, p.147) has overlaps to motivation and SDT and the concept of internalisation. However, hooks also talks of transgression (hooks, 2014), encouraging dissent from academic hegemony, and also considers the importance of socially imposed limitations, focusing on how black female students were not expected to engage in critical thought. Although the context is quite different the freedom that DIY or teacher-initiated PD may afford participants could have an emancipatory impact, enhancing the level or altering the form of motivation.

Building on this idea of transgression the notable educationalist Christopher Day, whilst discussing the various work of Michael Huberman (in particular: Huberman, 1989), utilises terms such as 'reckless curiosity' and 'mischievous motivation' (Day, 2002). This is noteworthy as earlier in the current research study the term DIY PD was selected over alternatives including 'rogue' (Holme, 2015b) and this term is also synonymous with 'reckless' and 'mischievous'. It should also be noted that if the wider educational community shunned teachers who acted in this way,[42] then this may have a negative effect on the motivation to engage in DIY or teacher-initiated PD.

Conclusion to discussion of motivation in DIY or teacher-initiated PD

As already discussed, published research into teacher motivation and PD is relatively limited in comparison with, for example, models focusing on practical delivery of PD activity. In addition, evaluation data collected from PD sessions by providers, could be methodologically flawed (participants may be reluctant to be completely honest).[43] Furthermore, informal PD is unlikely to be evaluated formally at all, with personal and anecdotal evidence suggesting this is the case (Holme, 2015a), so access to data is difficult. Perhaps a future alternative approach may be to consider the *demotivating* factors of PD for teachers as genuine response may be easier to obtain.

[42] I have observed this on social media where teachers looking for PD opportunities during the holiday period were discouraged from doing so by other teachers.

[43] I witnessed this at a formal PD event where the written evaluations were very positive, but on leaving I overheard a discussion from some participants who were critical of the session.

Ultimately it appears that intrinsic motivation is central to DIY or teacher-initiated PD. Although, as Niemiec and Ryan (2009) acknowledge, autonomous extrinsic motivation should not be discounted. Furthermore, applying research on the general issue of teacher motivation, (Han and Yin, 2016) argue the complexity of factors is dependent on context (such as culture). Therefore the main conclusion from analysing this notable theme is that motivation is a key element of DIY or teacher-initiated PD, but the way it manifests itself and the classification or categorisation is of lesser importance.

Collaboration

The next notable characteristic of DIY PD focuses on community or collaboration and is based on the statement: *The opportunity for community or collaboration is an important element of DIY PD.*

Definition and nature of collaboration

The decision to summarise this theme simply as Collaboration was because Learning Communities are considered in the next section, covering notable activities, so allows for distinction between the terms. As with other areas of this study, terminology is problematic and as a concept collaboration is uneven and changing (Vangrieken et al., 2015). Kelchtermans (2004) discusses collegiality and collaboration as important factors in school development and also introduces, when defining collaboration, the term ‘cooperative actions’ (see below). In some research literature relating to teacher PD and collaboration no formal definition is provided at all (e.g. Butler et al., 2004), instead understanding of the concept is inherently assumed. The ambiguity and complexity of this term has also been identified. The implications of which include greater sharing or interaction, and activity going beyond mere cooperation (Forte and Flores, 2014). This issue with the term ‘cooperation’ may be because there is a lack of ‘buy in’ or ownership from those involved. Kelchtermans’ (2006) inclusion of cooperative action in the definition below may be accepted at face value. However, on deeper examination it may be possible to cooperate without providing, or requiring ownership from the teacher. Whilst recognising that a shared understanding is a challenge, Kelchtermans (2006) defines collaboration as:

> *Teachers’ cooperative actions (their actual doing things together) for job-related purposes (Kelchtermans, 2006, p.220).*

This definition focuses on job-related purposes, which although including teaching may include other factors important for professional development, and for this reason will be adopted for the current discussion. However, it is acknowledged that this is a general definition which may still leave room for different interpretation. A potential criticism of this definition is the inclusion of cooperation, which may be seen as conceptually different from collaboration, however Kelchtermans clarifies the meaning as teachers 'doing things together' (Kelchtermans, 2006).

Moving beyond simple definition Hargreaves (2003) considers activities that represent collaborative teacher development and includes team teaching or planning, mentoring, peer coaching, professional dialogue, collaborative action research - and states these are just a few examples. It is also important to note that collaboration can also be seen as a continuum with this definition ranging from individuals working in an aggregated manner to a stronger team based manifestation of the concept (Vangrieken et al., 2015). Therefore attempting to classify activity or examples of behaviour as collaborative, or not, may lead to problems but because classifying PD in the general sense is beyond the remit of the current study this will not be pursued further.

Whilst discussing collaboration Kelchtermans (2006) introduces a related term – collegiality – stating that although these terms are often used interchangeably within education they are distinctly different. Collegiality can be seen as representing the quality of relationships between the key stakeholders (i.e. teachers) and is central to the culture of the school, or location, usually with positive connotations (Kelchtermans, 2006). This presents issues for the general concept of DIY or teacher-initiated PD as traditional school boundaries may not apply, and therefore culture may be more fluid. Yet again this raises the issue of shared understanding of concepts and that a deep and detailed 'forensic' level of thinking by teachers is essential. This second point has parallels to Evans' model (2014) of PD (introduced earlier) and discussions of micro-level development, which currently is not reflected in much teacher professional development and teacher education.

Building on the collegiate relationships, another key element of collaboration and professional development is how this impacts teachers on an individual or

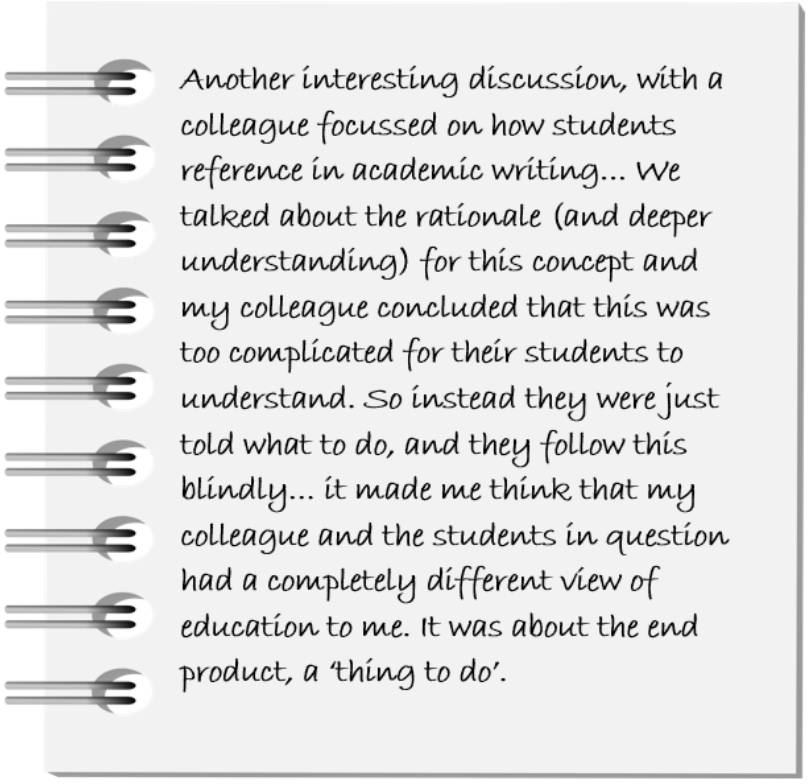
personal level. Reflecting this Garvey (2017) proposes that CPD should be re-termed Personal Professional Development, and goes on to explore how PD can be owned by the individual whilst still taking advantage of collaborative relationships. This form of collaboration, Garvey argues, may involve teachers not just working with other teachers, but also with leaders and support staff. This approach may take time but results in a shift away from the traditional school or authority managed PD so has the potential to flatten, or remove, hierarchies. This clearly mirrors ideas within the theory of engaged pedagogy which Freire (2000) discusses when outlining his influential developmental work in Recife several decades ago. This leads to the conclusion that the democratising potential for collaborative practice, and the impact on teacher development, may be a key element within DIY or teacher-initiated PD.

Impact of collaboration

Collaboration has also been shown to be an important factor in development of innovative teacher practice but also in enhanced teacher satisfaction (e.g. Strizek et al., 2014) both of which could potentially enhance motivation. Underpinning this may be feelings of 'belonging' and being with 'like-minded' colleagues. In turn, as teachers become more collaborative, this may provide opportunity for them to become more critically aware especially if those with differing ideologies or experiences come together. Freire would have seen this as a positive evolution which, by its nature, is emancipatory. In contrast Fullan (1993) argues a downside is the potential for a reduction in critical thought, influenced by 'group think' and reinforcement of a narrow viewpoint. This is one of the challenges facing teacher-led PD where people with similar interests and background may naturally gravitate together. As touched on earlier, motivation may impact on, or help foster, collaboration. Furthermore, collaborative activity can improve how teachers feel about themselves, impacting on identity and confidence. However, for some teachers the perception may be that this can impact negatively on feelings of autonomy (Johnson, 2003). If this is the case with DIY or teacher-initiated PD then it presents a potential paradox as several of the key themes and factors, relating to DIY or teacher-initiated PD, may contradict each other.

Moving on to the case for collaboration within educational and school contexts and the advantages of collaborative activity Hargreaves (1994) argues this influences student learning outcomes through improved effectiveness and

efficiency of teachers (e.g. via impact on instruction) and through impact on teacher learning and development. Despite this, drawing links from collaborative practice to student attainment or outcome may be problematic, as determining this as the sole causal factor is not possible. In spite of the gaps in understanding on this issue there appears to be some evidence that greater collaborative practice will impact on learner outcomes (Goddard et al., 2007). This brings the debate back to the very nature of education as being product or process focused and the associated implications, which itself is problematic if the partners in collaboration do not share the same values. This could, in turn, reduce the potential for collegiate developmental activity. During the current research project this issue was identified, when considering education in general, as this quote from the reflexive diary shows:



Despite this challenge, the lack of inherent structure (discussed in a subsequent section) within DIY or teacher-initiated PD may allow relationships to develop with those sharing the same values, and encourage collaboration further. Developing this theme of informality within DIY or teacher-initiated PD, collaboration is not necessarily dependent on a formal community; it can operate in a less organised or even organic manner illustrated by Philpott's analysis of a community of practice (Philpott, 2014). Linking group or community focused networks back to

individual teacher-initiated development is important because the informal professional networks may be far more fluid and difficult to either demarcate or evaluate. Assessing professional networking within a digital context (in this case Flickr) Merchant (2009) suggested that people can learn from, and within, groups or joint activity. It could be argued that within this sort of learning opportunity the associated lack of status or authority are important influences (Tour, 2017). This is of particular interest to the current study as it clearly overlaps with the notable factor of ownership discussed in the earlier section. The social or group aspect of collaboration combined with ownership, in particular within digital or social media (e.g. Jefferis, 2016), has the power to democratise professional development. However, this issue of democratisation has been challenged, especially as social media is now being used for commercial and political purposes, and teacher participants may be unknowingly manipulated. Of course, this argument could also be levelled at any platform, including public lectures or published material, and was illustrated by Sokal and Bricmont (1998) who highlighted how published, peer reviewed material can be fabricated and the establishment fooled if presented in a convincing fashion.

Risks associated with collaboration

Despite the often cited positive outcomes of collaboration there are risks associated including the potential to 'fall victim to self-interest, lack of focus, an evaporating vision, an aversion to risk and sometimes outright dissent' (Emmens, 2016, p1). Although collaboration is being discussed in a general sense, there are some issues that can clearly relate to teacher development activity. Firstly, the issue of self-interest has implications for the power-brokers and hierarchical owners of PD within education. In contrast a lack of focus may result in a group that is highly collaborative but move on to simply enjoying the company and time spent in the group. This may be illustrated by a group of teachers, who appear to be highly collaborative, discussing surface level, or non-education related issues.

The implication here would be that teachers engaged in such groups would not be engaging in valuable development activity at all. This low-level collaboration, or collegiality, could also result in an aversion to risk and lowering of expectations, although this could be levelled at all forms of teacher development. This is highlighted by Philpott and Oates (2017) who, when investigating learning rounds, suggest that innovations or development activity can be oversimplified to

allow for simpler transmission. This potential issue of lack of rigour with DIY or teacher-initiated PD, caused by issues relating to collaboration, could also be levelled at the traditional cascade model of PD (Boyd, 2005) where important detail is 'lost in translation'.

Another key criticism of collaboration is that it also presents potential for 'dissent' and the presence of a rogue or radical element within DIY or teacher-initiated PD could increase the potential for this further. Yet again this raises a potential paradox within the proposed form of PD as a desire to dissent from something (or anything[44]) may then damage the potential for collaboration reducing the likelihood of this form of PD operating effectively. Within the example of Twitter use for PD the key factor of 'tensions' between collaborators has been highlighted (Jefferis, 2016) and although this may have an emancipatory benefit, similar to some of the ideas argued for by bell hooks (2014), it may also lead to groups becoming exclusive and then the formation of factions. A recent debate on the digital platform Twitter illustrates this stratification, where two groupings focusing on traditional views within education ('trads') and those who see themselves as progressive educators ('progs') appear to have become increasingly polarised. Although this may present an opportunity for building professional knowledge through debate there is the potential this could discourage others from engaging in dialogue (Turvey, 2017). One of the additional issues raised by an expert during the Delphi study was that of social fracturing (Faust and Nagar, 2001) in the wider society and it is possible that this could be one of the explanations for this situation and may be an area worthy of future research.

Conclusion to discussion of collaboration within DIY or teacher-initiated PD

Summarising this discussion on collaboration it seems clear that, despite some potential risks, there can be an impact on teacher performance but also self-efficacy (Bandura, 1997) which in turn are important elements of teacher professional development. The process of collaboration is dependent on relationships and so will be heavily influenced by social and cultural structures (Priestley et al., 2015) which will be more complex in informal or unstructured settings. This means there are implications, on a practical level, for the structures

[44] This brings to mind the Marlon Brando's character, Jonny, in the film The Wild One. When asked 'What are you rebelling against?' he replies 'Waddya got?' Some teachers, and I include myself in this, may just want to rebel against the norm.

that can facilitate collaboration, such as Professional Learning Communities which will be addressed in a later section. In conclusion collaboration can both stimulate teachers to engage with DIY or teacher initiated-PD activity, and lead to the development of it, over time.

One related factor that seems to support collaborative culture is trust. Research from Tschannen-Moran (2001, p.308) proposes that 'a significant factor in constructing a climate that supports collaboration is building an atmosphere of trust' and this will be considered as the next notable characteristic.

Trust

The next notable statement related to trust, and specifically the teacher or educator being trusted by leaders. This is based on the statement*: School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD.*

Definition and nature of trust

This characteristic is closely linked to some of the earlier statements yet the influence of an external party (such as a manager) means the focus has widened with the presence of a hierarchical relationship overtly acknowledged. In fact it could be argued that this factor falls outside of the immediate control of the teacher as the individual can only influence, and not control, the degree to which they are trusted by someone else. This has an impact on the use of other theories in this analysis (such as Deci and Ryan's SDT) which refer directly to the individual. However, as education and professional development all rely to varying degrees on social interaction (see previous section on collaboration) it may result in an incomplete understanding if these other individuals (e.g. managers) are ignored in this analysis.

As with other factors and characteristics discussed within this study, various definitions for 'trust' have been presented. Indeed some authors write extensively on the topic without providing a formal definition (Fink, 2016). Blomqvist (1997, p.271) argues that there is 'conceptual confusion' and that despite attention from various authors, in a variety of fields, they often describe quite different things when discussing trust. For the purpose of this discussion trust is defined as the:

> *…beliefs about the other party and one's relationship with her/him, which lead one to assume that the other party's likely actions will have positive consequences for oneself combined*

> *with 'the decision to actually trust the other party' (trustor and trustee) leading to the act of trusting the other person (Dietz and Den Hartog, 2006, p.2-3).*

This definition is drawn from literature which considers professional or organisational structures, a common feature of teaching, so is deemed a suitable source to frame the subsequent discussion. However, the general concepts of trust can be approached from a purely sociological, psychological or philosophical viewpoint. For example, Barber (1983) considers the social phenomenon of trust and applies this to democracy arising from individual expectations within social situations. Whilst discussing physiological research, and acknowledging this is controversial, Fink (2016) proposes that decisions to trust, or not trust, are largely intuitive.[45] This has implications for DIY or teacher-initiated PD as those choosing to engage may be making an intuitive judgment about those they are working alongside. Furthermore, some teachers may be working in a less trusting culture and so be less inclined to engage in DIY or teacher-initiated PD.

Trust can also be approached from a moral-philosophical perspective which has implications for cooperative behaviour (discussed earlier). Although this was not really considered in great detail by the classic philosophers (Baier, 1986) given the importance of cooperation and collaboration with the current topic this should be factored in to any analysis. Another way of analysing trust is either from a system perspective, usually on an organisational level, or on an individual or personal level (Shamir and Lapidot, 2003). As the focus of the current study is DIY or teacher-initiated PD and primarily focuses on the individual or beneficiary then this social element, specifically interpersonal relationships, will be considered in greater detail next. The organisational element will be introduced when discussing learning communities later.

These different perspectives further complicate the unpicking and separation of key issues and factors (such as trust and collaboration) from each other when discussing teacher-initiated PD. Within the current study many of the notable characteristics will influence others which further explains why research into, and practical application of, these theories to professional development of teachers is challenging.

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[45] This issue of intuition may have overlaps to tacit knowledge and implicit learning, which is considered later (Chapter 8).

Impact of trust

Returning to research focusing on schools, and education in general, several authors have highlighted the importance of trust for effective educational practice which in turn have implications for learning (e.g. Louis and Murphy, 2017; Tschannen-Moran, 2014; Van Maele et al., 2014). There are also strong links between trust and teacher satisfaction, and even retention (Simon and Johnson, 2015; Van Maele et al., 2014); and a key associated factor is collaboration (discussed in the previous section). It has also been argued that trust is central to sustained and robust professional learning communities (Hargreaves, 2007), which will be explored in the next section. The research in this area suggests that key elements - or 'facets' - of trust within a school environment include willingness to take risks (which is inherent to all subsequent facets and was also raised in the previous section discussing motivation), as well as benevolence, reliability, competence, honesty and openness (Hoy and Tschannen-Moran, 1999). The same study proposed that when trust is present this becomes cultural, or integral, to a group and will pervade through organisations so although trust can be seen as an individual teacher characteristic this will be dependent on other individuals, and their manager or leader (Shamir and Lapidot, 2003). These characteristics are more likely to develop in DIY or teacher-initiated PD activity if it is group based. However, more individualised examples of this PD activity may lack opportunities to develop or build on these trusting relationships, although an alternative perspective would be that the removal of the hierarchies and management systems means traditional barriers to trust are less likely to develop.

The two key roles, i.e. the trustor and trustee, within a relationship will now be considered from individual and social perspectives. The way in which an individual perceives others is clearly dependent on prior experiences and becomes more of a community or collective phenomenon due to social interactions and social information processes (Shamir and Lapidot, 2003). The relationship between trustee and trustor is embedded within wider networks or communities and each individual who must be aware of their responsibilities and how they impact on others (Bryk and Schneider, 2003). This phenomenon of relational trust means that self-awareness is very important for all involved and has overlaps to self-efficacy and this will be affected by factors including respect, regard, competence and integrity. The interaction and engagement with others

can be facilitated by access to resources and even knowledge (Yang, 2007). This is important for DIY or teacher-initiated PD as those engaging with it are likely to be in greater control of the resources and knowledge. Furthermore, the reduced hierarchy within this form of PD means there should be a more equitable relationship between trustee and trustor, further perpetuating or encouraging engagement with this activity, which has been identified, with the use of Twitter, as democratising relationships (Jefferis, 2016).

Other factors linked to trust and risk include the ability of individuals to make themselves vulnerable whilst being confident others will respond with honesty and openness (Forsyth et al., 2011). By viewing this issue through the lens of the critical pedagogists (most notably hooks) this element of risk taking, and ability or safety to do so, may be essential within DIY or teacher-initiated PD, and could even be missing, or diminished within a traditional form of PD. Developing this link further, it is also suggested that a key component of trust is 'mutual vulnerability' (Berry, 2010) and if both parties can recognise this vulnerability in themselves, and others, this will foster greater trust. To do this effectively an open and honest relationship and culture is required, which may be more common with DIY or teacher-initiated PD, and this issue of openness and transparency will be revisited later in the Emergent Themes Chapter.

Risks or challenges associated with trust

Although DIY or teacher-initiated PD may occur beyond a formal school environment the teachers are likely to still be connected to, or influenced by, their daily place of work. Barriers to the development of trust, within a school environment, can include a desire to monitor or manage and can be combined with externally imposed standards or objectives and a culture of managerialism (Ross, 2015). The research study discussed in the earlier section (McMillan et al., 2016) highlighted the importance of intrinsic and personal motivational factors, whilst also proposing schools incorporate 'an overarching system of compulsory professional development' (McMillan et al., 2016). As with some previous themes and issues there appears to be a paradox as to how much freedom or control teachers should be afforded. The Freirean analysis would argue that teachers should have full ownership and if they were trusted to set the PD agenda themselves this might have added benefits. However, if this is seen as another attempt to simply placate teachers and the ultimate power over the

PD agenda were to be retained by managers or leaders, then teachers may become cynical or even resentful. Even if full autonomy over PD were to be provided, control would still exist around curriculum issues and, if so, this may foster a feeling that PD was somehow secondary in importance and therefore further undermine trust between teachers and managers and devalue PD further. This potential risk could be termed contrived trust in the way that Tschannen-Moran (2001, p.308) identifies ‘contrived collaboration’. DIY or teacher PD may, of course, be less susceptible to this, but is still a potential issue worth acknowledging.

There are further links between the issues of trust and the previous notable characteristic of collaboration (Tschannen-Moran, 2001) such as level of participation in educational matters without meaningful influence. As touched on earlier, the lack of control may devalue teacher perception of the value of PD. This is interesting as the level of trust felt by DIY or teacher-initiated PD participants or the degree to which they feel they are trusted by others may be why they are creating opportunities, such as Professional Learning Communities (PLCs) in the first place. Despite this apparently intuitive link, there has been little research into departmental or faculty trust and the impact of PLCs, although it is proposed that a trusting atmosphere will relate closely to the way in which the PLC develops (Lee et al., 2011). The relevance of PLCs will be discussed in a subsequent Learning Communities section.

The final challenge associated with trust and DIY or teacher-initiated PD relates to knowledge of the other party (either the trustor or trustee). For this, risk is a necessary condition (Blomqvist, 1997; Hoy and Tschannen-Moran, 1999) and relating this to DIY or teacher-initiated PD only some teachers may have the confidence or personal capital to take such risks. Ironically in doing so they may work toward developing greater agency but may do so without the support of others. This raises a potential contradiction as DIY or teacher-initiated PD could be, at times, an individual pursuit. Despite this, the results of the current study suggest that the most notable activities were professional conversation and learning communities (see next section) which are clearly collaborative in nature.

Conclusion to discussion of trust and DIY or teacher-initiated PD

Altering the focus of this analysis, and assuming that DIY or teacher-initiated PD is completely removed from a formal environment and with it any hierarchical structure (the issue of location will be considered subsequently), then school leaders or managers may not be relevant at all. The implication for this reduced power imbalance in DIY or teacher-initiated PD is that trust may be implied. This would fit with the Freirean position of emancipation and challenge to oppression, although to suggest that school leaders are oppressing teachers through traditional models of professional development seems to be a fairly extreme view. Referring back to PLCs, Dylan William discusses factors that could link closely to trust such as accountability and support specifically utilising the term 'supportive accountability' and proposing that this permits members to move beyond 'polite serial turn-taking' allowing genuine engagement in collaborative professional development (Wiliam, 2007, p.199). The removal of formalised or accepted 'unwritten rules' which may exist in a traditional school community could have implications, in several ways, for a longer term development of trust. The ultimate conclusion from the discussion of this notable characteristic is that trust has clear implications for power, perceived power, which links back to the earlier factor of ownership and agency. As this issue of power was not considered explicitly during the research stage of the current project it will be considered in the later emergent themes section.

Structure and formality (lacked consensus)

This next characteristic was the first that evenly divided the experts with almost half the participants agreeing, and half disagreeing. The discussion in this section is based on the statement: *DIY PD needs to be 'untimed' or 'untidy'.* As this statement lacked consensus this discussion will be briefer than the preceding ones. An alternative perspective would be that this lack of consensus warrants *greater* consideration, however the limitation on word count, and original method design means this will have to be investigated in greater depth in future.

Definition and nature of 'untimed' or 'untidy'

Possibly unsurprisingly, there is a lack of published literature on 'untimed' or 'untidy' PD, and despite searching for synonyms no relevant research papers or academic sources could be identified. In addition Burstow (2018) utilises the term 'messy' when discussing the wider concept of PD. There are also parallels to the

incidental learning identified by Rogers (2014) and Reid's quadrant model (see Figure 4). Therefore this discussion section requires a degree of abstraction from these terms. In an attempt to provide a slightly clearer understanding, the general heading 'Structure and formality' has been adopted for this discussion.

Structural elements have been identified within PD as the form of the activity, collective participation, and the duration of the PD activity (Garet et al., 2001). On the issue of timings it has been suggested that focused (albeit formal) PD delivered over time, creates a rhythm (ideally fortnightly or monthly) and is most effective, whereas an obligation to participate is a less important factor (Cordingley et al., 2015). However, despite this, evidence of research considering the level of informality or 'untidiness' of PD is lacking and this may be due to the relatively unusual nature of this issue.

Significance of structure and formality for DIY and teacher-initiated PD

In the key work on evaluation of teacher PD systems and practice, Guskey (2000) suggests that organizational factors are crucial for success and makes explicit reference to procedures and administrative support. Research from Cordingley et al. (2015) makes it clear that the main aim of the PD activity is outcome for learners. This issue of outcome was addressed elsewhere in the expert survey, and although identified as important by most experts it was not seen as an essential characteristic. The issue of impact on learner outcome is widely accepted within the wider literature on teacher PD and it could be that some experts believed lack of structure or formality would inhibit this outcome.

Related to this is the issue of terminology with synonyms for 'messy' (such as disordered, chaotic and confused) carrying negative connotations when used in the everyday sense. Therefore it is possible this was seen negatively by some of the experts in the current study. Approaching this issue through the theoretical lens of critical pedagogy the idea of structure and formality would be rejected by Illich (1971), who argues that the traditional structured school system limits learning. However, the work of hooks considers how engaged pedagogy can take place within formal structures and systems, as she writes extensively about learning within the academy (hooks, 2014). There may be a way in which this issue can be reconciled and this relates to the suggestion that teachers must have a 'rich and flexible knowledge' (Borko, 2004, p.5) and any variability and

lack of structure within opportunities for PD may be required and there should be an acceptance that ‘meaningful learning is a slow and uncertain process for teachers’ (Borko, 2004, p.6).

Conclusion to discussion of structure and formality within DIY or teacher-initiated PD

Drawing a firm conclusion from this statement is challenging, but perhaps the most suitable inference is one of uncertainty, in other words DIY or teacher-initiated PD could be untimed or untidy, but there is no compulsion for this characteristic. This maybe an unsurprising conclusion but it should not mean those trying to better understand teacher PD should ignore this. A final thought on this statement is that ‘untimed’ or ‘untidy’ PD could refer not to the individual examples or episodes of development activity but more the portfolio of activity and even attitude of those engaging with it. This idea also has relevance to the suggestion that some teachers, those classed as ‘gourmet omnivores’, are engaging with, or ‘feasting on’, a ‘smorgasbord’ (Joyce et al., 2009) of PD opportunities. This approach to engagement with DIY or teacher-initiated PD, as and when required, has clear parallels to the bricolage research methodology adopted for the current study. As opportunities for teachers to lead their own development widen and become more well-known a portfolio approach to PD may become more common. The results from this statement may suggest that within the field of PD we are only just beginning to acknowledge and understand this.

Leading on from the characteristic of structure and formality the Delphi study also highlighted a concern that DIY or teacher-initiated PD may result in lower quality provision and this statement will be considered next.

Quality may be impacted (lacked consensus)

This potential characteristic of DIY or teacher-initiated PD is based on the statement: *DIY PD may result in less quality PD (e.g. ‘Top tips’ sessions*) and this was another example that evenly divided the experts. As with the previous characteristic this statement lacked consensus so this discussion will be relatively brief.

Definition and nature of quality

As with the terms ‘untimed’ and ‘untidy’, this characteristic does not feature obviously in literature. Indeed the concept of what may be deemed ‘quality’ is highly subjective. Guskey (2002) states that quality PD is central to most proposals for improving education but fails to explicitly define ‘quality’. However, Guskey does suggest, in most cases, the end-point for quality PD is learner outcome or achievement and so this will be assumed as what would have been interpreted by the experts in the current study. Garet et al. (2001, p.916) state these outcomes are: ‘(a) focus on content knowledge; (b) opportunities for active learning; and (c) coherence with other learning activities’. What this does not account for is PD that indirectly impacts on learner outcome, such as the intellectual and attitudinal components as illustrated within the Evans model (2014). Despite this lack of clarity with definition, the underlying principle behind this statement was that the open-ended nature of DIY or teacher-initiated PD may reduce the benefit or impact of this activity. Furthermore, as experts participated in the survey it is assumed that they had sufficient experience and knowledge to infer what was meant by quality.

Significance of quality to DIY or teacher-initiated PD

One explanation for why this statement may have divided the experts could be due to the inclusion of ‘top tips’ as an example. This was included as it was provided in a response from an expert in the first round of the Delphi study.

As identified in the literature review online resources (e.g. social media and website such as Twinkl) are being utilised by teachers for PD. From personal experience of these I have found myself questioning the quality of such resources, and the responding experts may have made the same connection. One explanation for this is that there may be a mismatch in expectation between teachers and other stakeholders (such as the expert group) as to what PD should involve. There may be many within the teaching profession who value the idea of ‘top tips’ and wish to utilise these for their professional development and see this as ‘quality’ PD provision. This highlights the differences in understanding between those involved in leading learning and PD, including teachers, managers and other stakeholders. This issue of shared understanding and terminology will be discussed further in the next chapter.

Returning to the general issue of quality and PD within Guskey's (2000) research highlights the importance of evaluation is highlighted. Guskey stresses that often this is either overlooked completely or is left to experts to judge, who are only called in at the end of a project. This reference to experts is interesting, firstly because the current study is also utilising this group and also because it draws attention to the tendency for an external (possibly hierarchical) validator. The relevance of evaluation here may be one explanation for the mixed response to this statement. If DIY or teacher-initiated PD is not subject to formal controls then some of the experts may have reasoned it should not, or could not, have the quality measured. This also raised the issue of accountability and power, which will be considered in the Emergent Themes chapter, linking back to the previous section on trust.

Conclusion to discussion of quality within DIY or teacher-initiated PD

In conclusion, despite the mixed response from the experts in this study, it is important to really consider the idea of power and who it is that defines the 'quality' of PD. Adopting a postmodern relativist position one way to judge the nature of 'quality' of the experience would be the individual themselves. Taking a Marxist, more realist, and interpretation of quality may lead to an understanding that this view is culturally constructed. Regardless of what this looks like in practice it is likely that the interpretation of teachers, leaders or mangers, policy makers, and indeed education experts, may differ. A key factor, therefore, may be better communication, discussion and dialogue between stakeholders and this will be returned to in Chapter 8 as an emergent theme.

Drawing on personal experience, from when I was teaching, I had serious misgivings about PD that I engaged with as:

> *…nearly every Tuesday I would trudge in to the staffroom for a CPD session. Scanning the room I would see people watching the clock as it ticked closer to the 4:45pm finish time (Holme, 2015a, no page).*

This illustrates the highly personal element and raised more questions about when or where a value judgement should be applied to something like professional development. Therefore, the final conclusion from this discussion is that the role of the teacher, leaders and policy makers in determining the nature of PD is still very much unclear. As the experts in this study could not agree on

the issue of quality it is an issue that requires greater attention if DIY or teacher-initiated PD becomes more commonplace.

Discussion of notable activities

Having considered the notable characteristics this next section will address notable activities related to DIY or teacher-initiated PD.

This section addresses SQ2: What are the activities and delivery factors associated with DIY PD?

The broad heading for this section of the round 2 Delphi questionnaire asked respondents to consider activities, or factors which would be relevant to the proposed phenomenon of DIY PD. For ease of reading, and to provide a coherent flow, these statement will be discussed in a slightly different order than they appeared in the original questionnaire (Appendix 10). The first point to note is, although other activities were rated with high levels of agreement, only two met the criteria for being notable (explained in the Methods Chapter) and both of these focused explicitly on activity based on teachers interacting with each other, namely: professional conversations, and learning communities.

Professional conversations

The first DIY PD activity identified as notable was based on the statement: *Professional conversations.*

Definition and nature of professional conversations

The first point to note is that the subheading for this theme, derived from the associated notable statement, may itself cause issues; the term professional conversation could be interpreted in multiple ways. Many of the terms discussed so far have specific applications within the field of education; of course, the term conversation is far more generic and widely used outside of education. Therefore the literal meaning of conversation will be utilised for the basis of this discussion, namely the: ‘interchange of thoughts and words; familiar discourse or talk’ (Oxford English Dictionary, No date, no page). An interesting historical alternative meaning is: ‘the action of living or having one's being in a place or among persons’ (Oxford English Dictionary, No date, no page). This alternate definition has parallels to issues such as identify and sense of self, which in turn have

implications for personal agency, and the ideas of cultural habitus (Bourdieu, 1990).

Whereas the term conversation is likely to be easily understood, the element ‘professional’ could be disputed and therefore creates problems for the discussion of this notable activity. Being professional may be interpreted by some as meaning situated within the professional environment, and therefore the place of work. This may have been the case historically where teacher CPD was often seen as synonymous with formalised In-service training. An alternate view is that anything that may impact on teaching could be regarded as professional, as identified in Day’s seminal definition of teacher CPD (Day, 1999). More recently, in using the term Personal Professional Development Garvey (2017) highlights the importance of the individual, as a professional, being responsible for their own PD. In addition this would also fit with the ideas discussed so far of teachers ‘owning’ PD activity. For the purpose of the following discussion the standard dictionary definition for conversation (i.e. an interchange of thoughts and ideas) will be adopted, whereas the professional element will be interpreted as being implicitly understood by the individual teacher.

Impact of professional conversation within DIY or teacher-initiated PD

Research into talk and discussion to support learning for young people, for example with language development, is very well reported. This understanding and the importance of dialogic or dialogue to enhance pupil learning is now commonly accepted (Alexander, 2017) but the relevance for this to teacher learning or development appears to be less well developed. The importance of talk or discussion and debate is also referenced within the work of the critical pedagogists (e.g. Rule, 2011) but has also featured specifically as conversation for professional development in educational research (e.g. Tharp, 1994). More recently there has been interest in linking discourse with teacher agency (Priestley et al., 2015) which, as outlined in the earlier section, has clear implications for teacher professional development.

The importance of teacher conversation to professional development has been justified as:

> *…teachers generally welcome the opportunity to discuss ideas and materials related to their work, and conversations in*

> *professional development settings are easily fostered (Borko, 2004, p.7).*

Despite this desire for teachers to talk and converse for PD purposes, it is possible that these conversations could lack purpose, focus or rigour, and these risks must be considered. Another issue is that these conversations may focus, almost solely, on teaching delivery methods so would sit with the behavioural (or practical) components of the Evans' model (2014). If this is the case then the intellectual or attitudinal issues may be overlooked which have been raised when discussing other notable statements. This leaves an important consideration for the evolution of professional development, and the wider context in which DIY or teacher-initiated PD may exist; the ability and skill of teachers to converse and communicate effectively is dependent on shared understanding within that professional conversation. Of course, this should not ignore the potential for incidental (Rogers, 2014) learning

Engagement with professional conversations may also provide opportunities for teachers to examine their own approach to learning in a more rigorous manner. Again referring to the Evans' model (2014), this would fit within the evaluative sub-component, within the wider attitudinal component. In turn this implies that dialogue leads to self-evaluation and enhances the degree to which teachers feel comfortable in communicating openly. This has clear associations with the earlier notable characteristic of trust, including self-trust, as it has been argued that 'professional development leaders must help teachers to establish trust, develop communication norms that enable critical dialogue' (Borko, 2004, p.7). This then presents the issue of leaders allowing, or giving permission for, conversation to occur in a safe manner without fear of reprisal. Therefore whilst increasing the opportunity for conversation there should be an active relinquishment of power from those leaders (this issue will be explored in Chapter 8 – Emergent Themes). Stepping back again to consider dialogic engagement, and what is termed dialectic, Freire used this approach to develop and then enhance his own understanding i.e. through conversations and dialogic engagement with the work of others (Rule, 2011) including bell hooks. This same approach could be used by teachers, examining their practice, in a collaborative manner (as discussed earlier) or through cooperative activities, which is represented in the work of Freire, who states 'dialogue must underline any cooperation' (Freire, 2000,

p.168). Linking this back to the practical way in which this conversation or dialogic may occur, in a cooperative and collaborative way teachers are finding alternative opportunities to do this. This may explain the development of TeachMeets initially in Scotland, EdCamps, in the US, (both discussed earlier) and the recent teacher-founded BrewEd initiative, which includes small group talks and panel discussions and debates (Egan-Smith and Finch, 2018).

Risks or challenges associated with professional conversations

As already discussed, traditional models of PD usually focus on behavioural elements and tend toward transactional or transmissive delivery style rather than the more engaged and transformative approach (Kennedy, 2014). Therefore in addition to the focus on the attitudinal component, the perceptual element of the Evans' model (2014), is also important. Of course whereas all teachers are capable of talking about education,[46] some of the discourses will be more sophisticated than others (Priestley et al., 2015) which will be influenced by perceptual and intellectual understanding. Ignoring the specific characteristics of discourse, greater opportunity for professional conversation may provide the environment for agency to develop as teachers develop increased self-awareness. Clearly teachers will perceive situations and learning episodes quite differently, depending on their personal experience or self-view, and so reciprocal respect is important so as not to devalue any conversation. One way this could be achieved is through forms of autobiographical enquiry with colleagues from similar backgrounds or experiences (Holme et al., 2016).

Adopting a critical pedagogist perspective, Freire (2000, p.128) argues that dialogue and communication is what makes people human and that to 'impede communication is to reduce men to the status of 'things'…'. This has some parallels to transmissive PD, which are output or product based. Dialogue can also be used to challenge the accepted viewpoint by considering, as hooks implies, the importance of 'talking back' (Marcano, 2009) which could contradict the top-down format of traditional PD. Furthermore, those representing hegemonic groups and socially accepted 'ways of being' within education may limit, or at least influence, dialogue and ideas being talked about. Applying this to PD of teachers the ability to have authentic conversation and discussion is

[46] In fact from personal experience (in staff rooms, on social media, or in social situations), I think most teachers find it difficult to *not* talk about education.

essential, but will be impacted on the presence or influence of managers or leaders.

The issue of power may not simply be due to obvious differences within a hierarchical structure. Even if two individuals are of equal status professionally there may be unstated or unrecognised influences or power at play between them, and they may both perceive they have less power than the other. This has implications for teachers engaging in professional development because they may lack confidence to engage in deeper professional conversation, or in a truly genuine or authentic manner.

Conclusion to discussion of professional conversations within DIY or teacher-initiated PD

To conclude this discussion it should be noted that conversations and dialogue can help people understand practical issues and each other, and crucially *themselves*, through their own personal stories. From a research perspective this would be framed as narrative analysis and doing this can provide a useful form of professional development (Johnson and Golombek, 2002). This challenges the idea that a conversation needs more than one person; a truly reflective practitioner can converse with themselves and reflective, or reflexive, diary writing is one way this may be achieved, as utilised in the current research project. This general approach to self-reflection or self-analysis may also be important within DIY or teacher-initiated PD as the participants are able to ‘own’ the activity and as they learn develop a greater perception of competence, which is central to the self-determination theory of motivation (Ryan and Deci, 2000). This issue of awareness or a ‘sense of self’ (McArdle and Coutts, 2010) has been explored and researched within the context of communities of practice. Therefore there are also close links with conversation and the next notable statement referring to learning communities. For example research focusing on US based Professional Development Schools found that PLCs create opportunities for dialogue, making it safe to question resulted in a community where uncertainty was valued and supported (Snow-Gerono, 2005). This also highlights the general issue that the connections between notable statements may be correlational, and establishing if one causes, or leads to the other, it may not be possible.

Teaching/Professional Learning communities

The second activity which the expert panellists thought characterised DIY or teacher-initiated PD developed from the notable statement: *Teaching Learning Community [TLC]/Professional Learning Community [PLC].* The decision to summarise this activity as learning communities is based on the fact that slightly different definitions exist for TLCs, PLCs and Professional Learning Networks (PLNs), and so this will be explored first.

Definition and nature of Professional Learning Communities (PLCs)

PLCs are currently a popular topic within education (Priestley et al., 2015); the general idea can be traced back to the early 1990s and learning organisations (Senge, 2006) but it also has roots in the educational theory of reflective practice (Schön, 1991). Making further links to key features such as enquiry and reflection, there is a case that PLCs are further underpinned by the work of Dewey (Stoll et al., 2006). This connection between reflective practice, sense making and collaborative engagement with professional development has also been explained and explored through theoretical models (e.g. McArdle and Coutts, 2010).

The idea of learning communities evolved through the 1990s and the concept of the PLC extended to include other key personnel beyond teachers, incorporating issues such as self-managed accountability (DuFour and Eaker, 2005; Hord, 1997). A range of terms are still used to refer to the general principle and three in particular recur in academic literature: Professional Learning Communities (PLCs), Personal Learning Networks (PLNs) and Teacher Learning Communities (TLCs). This final term is used by Dylan Wiliam when specifically proposing how formative assessment may be best embedded into daily teacher practice (Wiliam, 2007). As with other terms relating to factors in the current study, there is debate over what is meant by PLCs and PLNs. Even the terms ‘community’ and ‘network’ are debated and disputed (Saunders, 2014), although one proposed distinction is that a community can be part of a wider network (Bolam et al., 2005; Jackson and Temperley, 2007). A crucial element of PLCs is that teachers work on some form of enquiry that will then inform practice, including formal data collection or through professional dialogue, although there are ‘no hard-and-fast rules as to how PLCs are to be enacted in practice’ (Lee et al., 2013, p.53). For the

remainder of this section the term PLC will be used, unless preserving an alternative term present from an original source.

Impact of LCs within DIY or teacher-initiated PD

Research into PLCs within a Professional Development School (PDS) has suggested that there are two important factors (Snow-Gerono, 2005) with the first being, rather unsurprisingly, a shift toward community, but the second is a shift toward uncertainty. Within the current context of this investigation into DIY or teacher-initiated PD it is possible that the uncertain or less structured nature, and opportunity for teachers to engage and disengage, means that a concentration of complacency could be less likely. This increased self-criticality could motivate teachers to feel more confident when searching, and engaging with, development opportunities. Whilst researching social media, specifically twitter for leadership PD, Jefferis (2016) identifies the issue of tensions when collaborating within this professional network but also the potential benefits from being exposed to a disparity of viewpoint. Applying this idea to PLCs they may go beyond superficial exchanges – requiring and then fostering, feelings of independence (Stoll et al., 2006). It seems that these issues highlight the importance of community culture and the attitude of the teachers to engage and embrace ideas. This links to the earlier ideas of agency and ownership and is situated within the attitudinal components of the Evans' model (2014). This element of independent challenge, as an individual or as part of a collective, can also lead to knowledge creation which may have an impact on personal or even group motivation, explained by Self-Determination Theory (Ryan and Deci, 2000).

Returning to the source statements for this notable activity it is important to consider that the specific issue of networking also featured in the second round of the Delphi study (i.e. statement 3*c.i The opportunity for networking is an important element of DIY PD*). Although this statement received a high degree of agreement it was not classed as notable. This may be because some respondents thought that the network element precluded individual working, which they may have associated with the 'yourself' element within the DIY label. This may seem to run contrary to the earlier statement relating to collaboration and community, but it is possible that a teacher may be able to participate in, and be part of, a collaborative community whilst still acting individually at points. Therefore, this may be a key element within DIY or teacher-initiated PD.

Regardless of the nuances between terminology, and definitions of community or network, the social interaction element, and the impact on teacher development appears to be relevant. It has been suggested that teachers' engagement in this, in particular in digital spaces (which allow greater spontaneity), is an under-researched area (Tour, 2017). Given the complexity between social relationships, locations and motivation to learn this may not be surprising, but it does not mean that such research should not be considered or attempted in future.

Although the traditional view of learning communities focuses on teachers working together in the same physical space, recent developments in digital technology for PD, for example Twitter (Carpenter and Krutka, 2014; Jefferis, 2016; Visser et al., 2014), has also allowed teachers to form their own learning networks or communities. Research in this area is in its infancy but this trend may be partly down to a desire by teachers to exert their own personal authority. Therefore, future learning communicates may begin to develop organically led by individual teachers in physical and digital spaces. This may be an attractive proposition for educational managers or policy makers as there are no associated direct costs. However, there may also be resistance from some quarters due to the lack of control or accountability within these communities, or activities e.g EdCamps (Swanson, 2014). Furthermore, some teachers may find this challenging due to issues discussed earlier, including relating to agency.

Risks or challenges associated with LCs

What should be made very clear at this point is that the introduction of, or involvement with PLCs, does not necessarily lead to improved learner outcomes (DuFour, 2007). As with other initiatives and innovations in education they should not be regarded as a 'silver bullet' (Watson, 2014). This could also be seen as a weakness, as those who become involved or committed to PLCs (teachers, leaders or policy makers) may become evangelical and this may lead to losing the 'critical edge' and teachers may then: 'be left to stew in their own (comfortable, but uncritical) juices' (McArdle and Coutts, 2010, p.210). This is of particular relevance to the current study as teachers engaging in DIY PD may be subject to the same overconfidence and fail to display critical objectivity.

There are other concerns when considering how teacher communities can support professional development and one of the main ones is that these could

be counterproductive and even foster a negative environment. Therefore it is essential that ‘communities of any kind require work to make them function in an equitable and sustainable manner’ (McArdle and Coutts, 2010, p.208). To facilitate this a number of key characteristics have been cited, based on the idea that critical reflection can support such activity. It is important that this starts with a balance between social and individual, and reflective and active behaviours, and then develops to ensure opportunities for critical evaluation and sense-making (McArdle and Coutts, 2010). This final point of sense-making (Ketelaar et al., 2012) was raised, and discussed earlier when considering agency and ownership. This again illustrates the interconnected nature of many of the key features and activities associated with PD and in particular the proposed idea of DIY or teacher-initiated PD.

Problems can also exist in learning communities with ‘contrived collaboration’ (Tschannen-Moran, 2001, p.308) where the community is controlled by school or local authority leaders. Anecdotal evidence from practising teachers and school leaders suggests this is a problem with pseudo-consultation and pseudo-choice in engagement and content of PD activity. Taking a longer term view historical examples (dating back to the 1990s) of community based PD activity highlight the importance of active teacher involvement in the ‘construction [of] and not mere consumption of subject matter teaching knowledge’ (Little, 1993, p.112-113). This raises the issue of the level of community ownership within PD activity. This is considered at length by Freire, who also warns against selecting leaders from within communities to take initiatives forward and can ultimately ‘become strangers in their own communities’ (Freire, 2000, p.142). Closely related to this issue of contrived collaboration is where a LC is initiated, owned, controlled or closely monitored by a formal institution. In Scottish education this appears to have been a recent trend with Education Scotland, local authorities the General Teaching Council for Scotland (GTCS) and the Scottish College for Education Leadership (SCEL) taking a greater interest in becoming involved in learning communities (e.g. Team SCEL, 2017). Of course this could enhance the activity of the PLC but could lead to tensions due to the apparent power imbalance between an individual teacher and a formalised group or organisation. Contrary to this it may provide an advantage to the entire educational sector as those involved in LCs may have a greater opportunity to influence more formal groups

or organisations. Clearly these issues of community are complex and require careful handling by all involved.

The raising of awareness of LCs may encourage teachers to form their own ‘ad hoc’ networks and communities and the extract from the reflexive diary, in the vignette below, illustrates how this has developed for me.

Clearly these experiences are not examples of forced or contrived collaboration. This idea can be explored in the context of the work of the critical pedagogist Ivan Illich, who proposed the idea of learning webs (Illich, 1971). The guiding principle here was that traditional education focuses on making people learn rather than encouraging the development of positive attitudes to learning. If this principle of learning webs, which have some similarities to the more recently evolved idea of LCs, is accepted then the ability to connect and share ideas, at teacher or educator level, may go some way to challenging the top-down nature of PD. This has been highlighted, when considering the use of social media for professional development, and the ability to democratise teacher learning (Jefferis, 2016). At this point it is important to acknowledge a danger associated with community based collaboration as there is the potential for this to have a negative impact on outcomes or development:

> *…collaboration is a demanding target and that merely espousing it as a valuable and productive strategy is not enough. Team and task support must be good and, if either fails, the chances of future collaborations are reduced. This is not a zero sum game - a bungled attempt at collaboration has the potential to drive development backwards not merely maintain the, inactive, status quo… (Bevins and Price, 2014p. 282)*

There is an obvious crossover with the characteristic of collaboration, learning communities, and with DIY or teacher-initiated PD. As with earlier discussions the correlational or causal relationships between DIY or teacher-initiated PD characteristics and activities may not be clear, but the links should not be ignored.

Conclusion to discussion of LCs and DIY or teacher-initiated PD

Concluding the discussion of this notable activity it seems that LCs have the potential to play a central role with DIY or teacher-initiated PD. However, the nature of these communities may depend on the situation and those involved. The way that LCs can impact on teacher PD is also reliant on a range of associated factors. Priestley et al., (2015) draw on their empirical research and make connections from relational conditions and collaborative culture in enabling agentic activity. These crossovers from collaboration, via learning communities, including informal ones, to the themes of ownership, agency and trust yet again illustrates the way in which many of the findings from the current study are closely interconnected.

Having discussed the notable activities that best represent DIY or teacher-initiated PD, the factors that influence delivery will be considered next.

Discussion of notable delivery factors

Having considered the notable characteristics of DIY or teacher-initiated PD this next section will address notable delivery factors.

This section addresses SQ2: What are the activities and delivery factors associated with DIY PD?

Two statements were identified as notable: the first related to the situated nature of the PD activity, interpreted as delivery location, and the second proposed the timing (being transitory or intermittent) nature of DIY PD could be a weakness. The statements were: *DIY PD should be situated away from the formal workplace*

(complete disagreement), and *If DIY PD involved transitory or intermittent engagement this would be a weakness* (which lacked consensus).

Situated away from work <u>not</u> essential

The discussion of this delivery factor is based on the statement: *DIY PD should be situated away from the formal workplace* and the fact that there was very little agreement from the experts with this statement. No further definition or explanation for this statement is deemed necessary as the meaning is explicitly clear. The experts believed that DIY or teacher-initiated PD did not *have* to be situated away from the workplace.

Discussion of reasons for rejection of statement

From the outset of this project the issue of PD delivery location was seen as important. Initial ideas, emerging from the literature review were that it may be completed in the learners own time but also in their own physical space. This was also informed by personal first-hand experience of PD situated away from the formal work location, including training in moving image education run by the local independent cinema when I was a teacher, and attending TeachMeets, which the vignette below shows.

There are also examples of school spaces (TeachMeet Scot, 2016) being used for teacher organised PD but outside of the formal jurisdiction of the school management. Despite this evidence this statement resulted in the highest degree

of disagreement. The experts clearly rejected the suggestion that DIY or teacher-initiated PD *must* take place away from the workplace. There may be a range of reasons for this and the first is that the word ‘choice’ within the statement meant that experts may have thought that DIY PD *could* take place outside of the confines of a school, but could also occur within the formal workplace. This is obviously an issue (also present in other statements in the study) with the design method and this will be explored more in the limitation section later. The most likely conclusion from this statement is that the experts thought DIY or teacher-initiated PD could take place within the formal workplace, but might occur elsewhere. Before moving to the next notable factor PD within the physical, social and cultural school-based space will be briefly considered.

Impact of situation or location on DIY or teacher-initiated PD

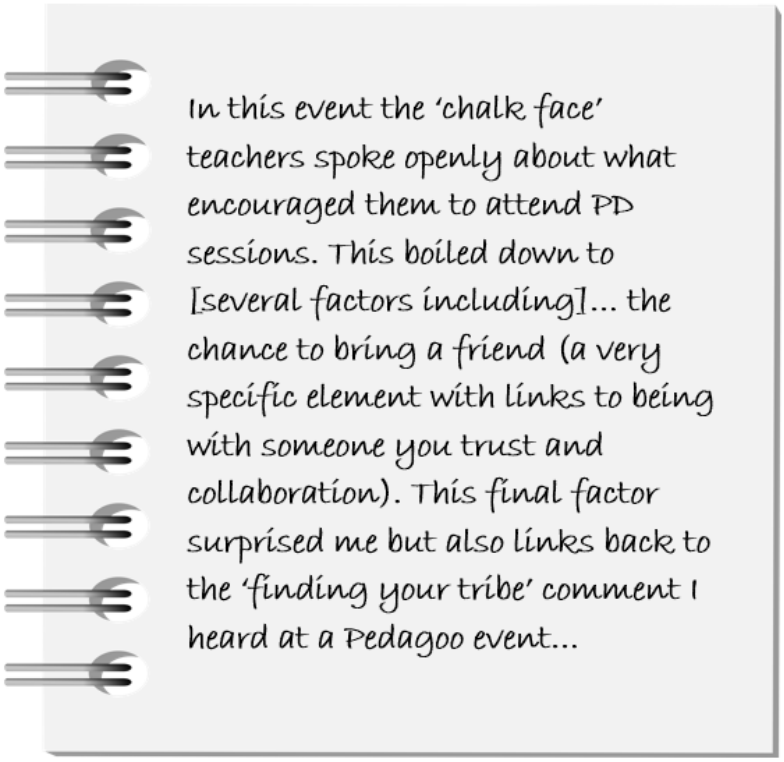
When referring to location for student learning there is limited research into classroom layout, learning space design, and school architecture but this subject is relatively underdeveloped (Gislason, 2010). As this is the case for school age learners it is unsurprising that research into the environment or location of teacher learning is also sparse. It is also interesting to note that the virtual or digital spaces for teacher PD have been researched and investigated (e.g. Shannon et al., 2015) but the physical layout and location for teacher PD seems to have been largely overlooked. It would seem reasonable to assume that practical, hygiene factors (such as room temperature, or seating and table arrangements) would influence how a teacher engages with development activity.

From personal experience of formal professional development activity, in school or higher education settings, the physical location is rarely given consideration One explanation for this may be that there is an assumption, from those responsible for PD, that teachers will automatically engage with development activity so when organising PD issues related to layout or location are ignored. This is an area that certainly warrants further investigation, even if this is just to further validate the expert view that the physical space for PD is not important.

Impact of social and cultural situation of DIY or teacher-initiated PD

The physical location of PD delivery has been given prominence by some authors (e.g. Putnam and Borko, 2000) who consider the social dimensions and interactions beyond the physical confines of a school or training facility. Returning

to the models of PD discussed earlier, the issue of location is one of three key components in the Fraser et al model (2007) within what is termed the ‘sphere of action’. Although this may align with practical or procedural factors for PD delivery it may also be important, as a teacher may be more inclined to engage in a PD session located in a more social environment. Whilst reporting on research into PD, Snow-Gerono (2005, p.235) discusses a particular teacher who believed that engagement with collaborative professional development was enhanced when they had the opportunity to physically go beyond their own school site, adding that teachers cannot always ‘find the safe environment’ needed ‘for uncertainty’. This issue of uncertainty was considered in the discussion of PLCs but this conclusion also suggests that teachers have concerns over either accountability or trust (of their managers, or their managers of them) to engage ‘safely’ in PD. Ultimately the assumption could be that if teachers are to engage in PD beyond the formal school environment then this requires a culture of trust to be present. This issue of social interaction and trust is illustrated in the vignette below, captured in the reflexive diary, after I attended at a formal PD event.



This vignette also touches on cultural factors, for example with Pedagoo,[47] that influence delivery location. This will also influence the way in which teachers engage with PD, with social activity and habitus (Bourdieu, 1990) being crucial. There is also an overlap from cultural location to the physical location (such as a school building) and so even the fabric of the building will carry with it a certain cultural capital, interpreted differently depending on the individual. This is a more intangible way of considering space than in the previous section, and referencing the critical pedagogists, hooks talks about cultural influences (such as film or music) interacting with space or location. Within Freire's work on culture circles he utilised images familiar to the learners, to stimulate dialogue (which will be considered later in the Emergent Themes Chapter). Both these ideas have links to the earlier statement and theme of relevance – which allows learners to connect to the subject matter and content. The topic of culture within education and the impact on PD engagement is an area that would certainly merit further investigation specifically in the context of DIY or teacher-initiated PD.

If it is the intangible cultural space that really matters to teachers then this may be why the physical location is given minimal attention with traditional, INSET style, PD. However, if this location is important for engagement with PD then this may be one of the attractions of DIY or teacher-initiated PD to the participants. This could be due to issues of agency, ownership and empowerment (discussed earlier) or may simply be down to what is termed the novelty effect (Houston-Price and Nakai, 2004). This is where individuals are attracted to something different which in the current context this could include a new PD activity, in a new location or with a different selection of people.

Conclusion to discussion of situation of DIY or teacher-initiated PD

A final point to note with this delivery factor is that, although not classed as notable, another statement in the survey also referred to location, namely: *Delivery location and accessibility of DIY PD are important factors*, and although this statement had a general level of agreement it also scored lower than several of the other statements. The conclusion when triangulating the results for both these related statements, appears to be that DIY or teacher-initiated PD *can*

[47] Pedagoo is a group which organises TeachMeet style events and shares ideas through social media. The Twitter account (@pedagoo) describes it as a 'Community of teachers learning through sharing classroom practice.'

occur within the workplace and so such activity should not be ruled out. Burstow (2018) has suggested that the common generalised attitude relating to location of PD is that in-school is better than off-site, but whilst reporting on contextualised evidence from formal M-level PD it is proposed that the reality is more nuanced. This provides further evidence to explain the ultimate conclusion that DIY or teaching-initiated PD *may* take place away from the workplace but this is *not* essential.

On reflection this seems a pragmatic conclusion as activities such as TeachMeets, which originated away from school (LondonEd, 2015), are now regularly held within school premises, albeit as extra-curricular activities. From a theoretical perspective this issue of 'situated learning' (Evans, 2016) is one that should be considered with teacher learning and development in general. Toward the end of the doctoral study process one of my supervisors reflected that we had, inadvertently, considered this issue for my learning and development. We always met, not in an office, but in a library study room, or the café, which crossed the boundaries from professional work space to the less formal student work space.

Weakness possible due to intermittent or transitory engagement (lacked consensus)

The next delivery factor is based on the statement: *If DIY PD involved transitory or intermittent engagement this would be a weakness.*

Nature of intermittent or transitory engagement

This statement focused on how PD may be delivered, and specifically how the intermittent and transitory nature of this form of PD may be a weakness. Due to the routine, everyday nature of the terms in this statement (intermittent and transitory and weakness) definitions will not be provided, but the general concepts will be discussed. The original source statement evenly divided opinion amongst the experts. This notable statement has similarities with the earlier characteristic of the nature of DIY or teacher-initiated PD may impact on quality. There are also similarities to the statement relating to DIY PD being 'untimed' or 'untidy', which was discussed under the heading structure and formality.

Impact of intermittent or transitory engagement in DIY or teacher-initiated PD

The issue of frequency of engagement and degree of consolidation and follow up within teacher PD has been raised by Cordingley et al. (2015, p.13) who identify that: 'it is important that professional development programmes create a "rhythm" of follow-up, consolidation and support activities' as this reinforcement will impact on practice. Interestingly the authors suggest that space and time is made available for practitioners to engage with PD, stating that 'time here is key – school leaders must consider how staff are supported to engage in this rhythm and adapt workloads accordingly' (Cordingley et al., 2015). This raises the problem of disconnecting the PD activity from the day-to-day teaching which was considered in the earlier section, but also proposes that school leaders should 'permit' PD to take place. What is apparently missing here is teachers taking personal responsibility and holding themselves, and possibly their peers to account. This recurring theme of power and the role of managers or leaders will be explored as an Emergent Theme in Chapter 8.

The debate over formality and informality, and the transient and intermittent nature of PD presents a potential paradoxical issue for those responsible for teacher development including teachers themselves. Illich proposed the idea of counter-productivity defining this as when 'an institution paradoxically takes away from society those things the institution was designed to provide' (Illich, 1976, p.86). In simple terms, for teachers to develop greater agency and to further their development, they may need to be afforded time and space by the leaders, but initially this may lead to feelings of insecurity in the teachers so inhibit moves toward agency. Furthermore, in providing the space for teachers to develop, possibly through relinquishing control, the leaders may feel they are making their own position less relevant.

The comprehensive literature review of teacher learning communities (Vescio et al., 2008, p.86) discussed in the previous section, highlighted the essential element of continuity in learning. It is possible that activities could be transitory in nature, but the underlying learning process - on a micro-level (Evans, 2014), is not. (This issue of implicit learning will be considered in the Emergent Themes Chapter.) Taking a more traditional view of education there is an assumption that continuous engagement or commitment is a key factor. Possibly the best known example of this, from the wider society (e.g. in sport or music), is the idea that

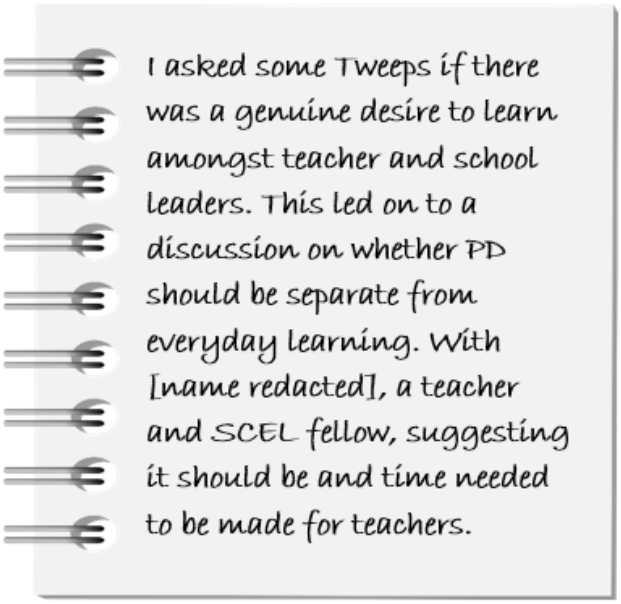
mastery of something takes 10,000 hours or ten years of deliberate practice (Baker et al., 2003). The suggestion is that an ongoing commitment is required to gain expertise and this general idea is represented in the Developing Great Teaching study which suggests:

> *…prolonged or extended CPDL interventions were found, more or less universally, to be more effective than shorter ones (Cordingley et al., 2015, p.4).*

The same report also suggests that usually this PD would cover two terms or a year or even over several years and directly challenges any notion that one-off PD has value. Therefore, intermittent or transitory engagement would indeed present issues for DIY or teacher-initiated PD. It is also important to note that issues relating to PD being transient and intermittent may not be the preserve of teacher-initiated PD but present in all PD, possibly caused in the UK by a fracturing of the educational administrative system, resulting in:

> *..little coordination among providers or continuity across stages of the career development ladder, creating gaps and redundancies that hamper teachers' ability to assess and satisfy their ongoing professional development needs (Schlager and Fusco, 2003, p.215)*

The lack of time and space for PD is often cited as a barrier to engagement, as the vignette below illustrates. This raises another point about ownership and agency, and whether the teachers should make space and time for PD, or should the PD process be separated from the day-to-day role of teaching.



The final possible reason for the mixed response to this statement may in part be due to the wording. This statement used the word ‘would’ and it is possible that if the statement had been alternatively worded as ‘could’ then there may have been a much higher level of consensus.

Conclusion to discussion of intermittent or transitory engagement within DIY or teacher-initiated PD

It is clear that there are concerns amongst some experts that intermittent or transitory engagement within DIY or teacher-initiated PD may be a weakness. As the experts were evenly divided this is an area that is likely to cause issues when trying to understand DIY or teacher-initiated PD. The overall conclusion from this notable statement is that DIY or teacher-initiated PD activity *may* be intermittent or transient, and this *may* be a problem. The implication from this statement is that those involved in either planning for, or participating in PD, in particular the teachers themselves, should be aware of this potential issue. Yet again this raises the issue of teacher self-awareness and a deeper understanding in particular from those engaged in the PD activity. The starting point with this conclusion must be awareness of the issue amongst the wider educational community.

Chapter 7 – Summary of key findings

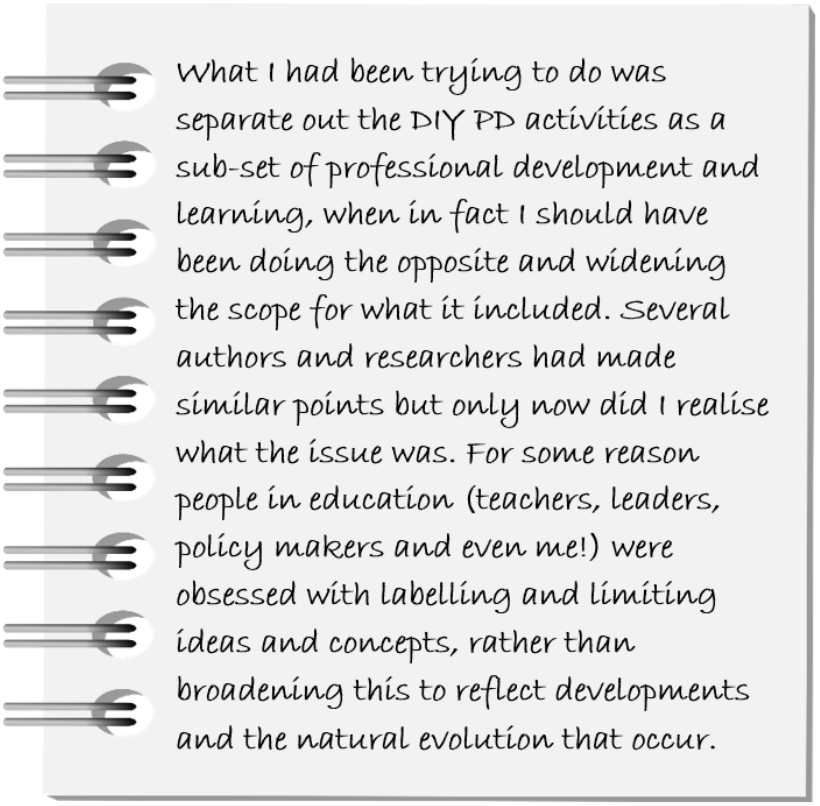
Having considered each individual notable characteristic, activity and delivery factor related to DIY or teacher-initiated PD, this chapter summarises these into four key findings from the overall research project.

Finding 1: Definition and conceptualisation of DIY PD is problematic and teacher-initiated PD (or PL) is a preferred term of the Delphi experts

This first finding highlights the challenge of delineating and defining different forms of PD. Throughout discussions in the previous chapter the difficulty in defining terms (e.g. agency, collaboration) has become obvious.

Based on the results of the Delphi survey, and *if* there is value in adopting and utilising definitions in the wider field of teacher professional learning and development, then teacher-initiated PD (or PL), and not DIY PD, is preferred.[48] Despite this, alternative terms such as Personal Professional Development (Garvey, 2017) or Professional Learning (GTCS, 2014b) may be better understood by many teachers; therefore, rather than arguing over a precise definition, education professionals may be better served by trying to understand the *process* of development and learning and understand their place within it. The important factor here is how the individual defines, understands and engages with their own development activity and is able to explain and articulate this for themselves and with others. This is of particular relevance given the recent report produced to evaluate the impact of Teaching Scotland's Future (Black et al., 2016) which found that teachers had a more positive view of Career-Long Professional Learning as there was now a broader definition of what this entails or encompasses. The vignette below, from the reflexive diary, documents how this conclusion developed:

[48] When discussing the general ideas in this area with colleagues I have found we sometimes use DIY PD, as we are now more familiar with this term.



The issue of labelling, and related semantic confusion around learning (Brookfield, 1984), has implications for ownership, agency and ultimately power (Kockelman et al., 2007) and the relevance of these - albeit subjective – concepts leads to another key point; the desire to define is driven by a need to measure or assess, driven by a culture of performativity and conformity (Sugrue and Mertkan, 2017) in UK education. This is a good example of Illich's classic counterproductive activity (Illich, 1976) whereby attempts to improve education may in fact hamper progress, as formalising professional development may limit the range and depth of learning teachers achieve. In addition, alternative terms and the desire to create or even 'own' these (e.g. CLPL in Scotland) could complicate this matter further. These ideas of power, hierarchy and control will be addressed in Chapter 8. Despite this a culture of conformity may, in some cases, have a positive impact if individuals feel a sense of belonging with others. If so then the 'passive consumers' may make the shift to joining the 'gourmet omnivores' (Joyce and Showers, 1988).

Returning to the broad concept of PD, Evans (2016, p.5) asserts that we do have 'a good idea of what PD 'looks like', and 'how it differs from other, similar phenomenon' but more recently has drawn attention to a lack of understanding around the differences between formal and informal professional development

(Evans, 2018). The current study set out, through expert opinion, to address this; as a result, a definition was required to present to the expert panellists as a basis for discussion. The earlier working definition included the term ‘professionalism’; however, following analysis and discussion, the relevance of learning seems to be more appropriate. The inclusion of ‘professional’ may be limit teachers understanding that informal, and even accidental learning can contribute to their development. Consequently, based on this research project, teacher-initiated PD [formerly referred to as DIY PD] is now redefined as:

> *The activities and processes which enhance teacher’s learning, resulting in improved outcomes for learners, which is ultimately defined by the teacher. This may be done through any activity which is instigated and owned by the teacher.*

Further to which:

> *Teacher initiated-PD is facilitated by the teacher being trusted, by others and themselves, to take ownership and thus work toward achieving greater agency. Professional dialogue and collaboration are key features, but ultimately the activity or form of engagement should be decided by the teacher, as they will know best what motivates them and what is relevant.*

Finally, in light of the analysis, there is an additional caveat that those engaged in teacher-initiated PD should not be limited by this definition and the process of development should be something that takes precedent over the output or outcome. In some ways this reflects the view of Biesta et al. (2015), whilst discussing the key characteristic of agency, stating this is something that is worked *toward*.

Despite the fact that teacher development has been researched for decades[49], questions remain over the very nature of teacher learning. Based on the results of this project it seems that the question posed by O’Brien and Jones of ‘whether the terms are used, understood or differentiated in practice is a long way from being answered’ (O’Brien and Jones, 2014, p.684) continues to resonate. This may, of course, present opportunities for teachers to take greater ownership of their development and define development and learning as they see fit.

[49] See earlier section covering history of professional development (Chapter 2).

Furthermore stakeholders (teachers, leaders, policy makers and academics) must be able to accept their interpretations will need to change or develop. There should be a clear recognition that teacher PD, by its nature, is 'messy' (Burstow, 2018). Efforts should, therefore, focus on ensuring careful development and precise delivery of quality teacher PD regardless of whether this involves non-formal, self-directed, of informal learning (Rogers, 2014). The ultimate conclusion is that there needs to be far greater discussion and debate within education as to what counts as professional development, and professional learning, and an acceptance that this is an evolving and fluid topic. Leaving formal learning, in formal settings to one side all other learning that teachers undertake, initiated by themselves, consciously or subconsciously can contribute to their development. This may then lead to greater shared 'conceptual clarity' (Evans, 2018) amongst teachers, moving the focus away from argument over specific labels or terms.

A 'footnote' to this finding is that, during the final stages of writing up the report the term grassroots began to emerge, organically and through informal discussions. Although the term 'grassroots' did not feature in the data collection phase it may, ultimately be a more suitable term, label or classification. The reason that this has not been explored in any greater detail is that it did not feature in the instruments, nor the results, however the importance of this more nuanced conceptualisation will be explored in future research (see Chapter 10).

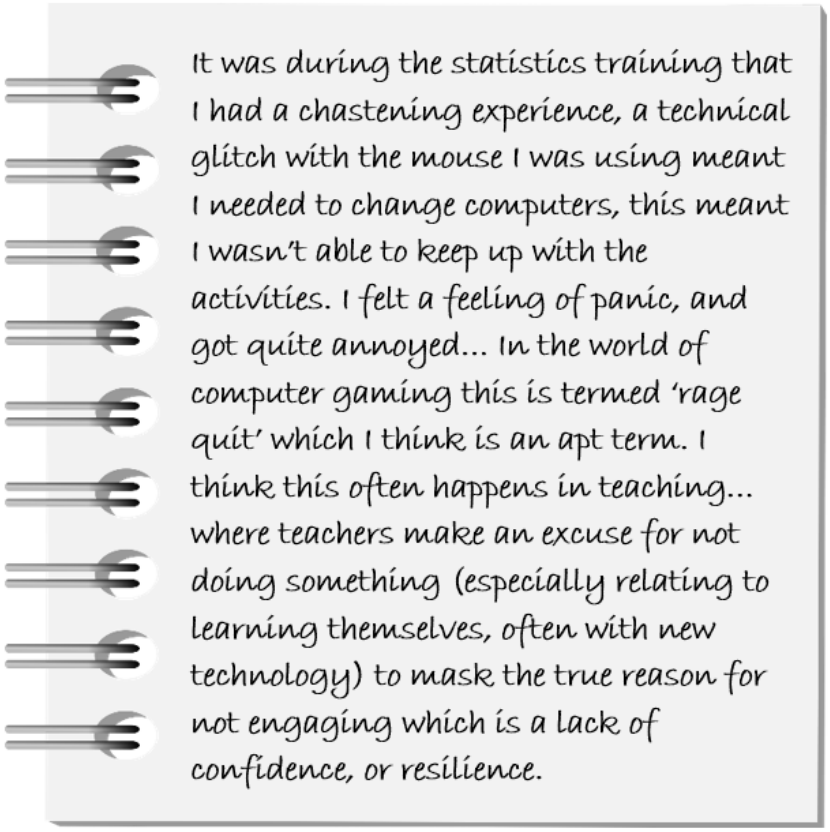
Finding 2: Key factors for teacher-initiated professional development are: relevancy, ownership, agency, motivation and trust

The second finding focuses on the key factors, all concentrating on the teacher as beneficiary, which are central to the concept of teacher-initiated PD; namely relevancy, ownership and agency.

Whilst discussing the previous key finding it was argued that teachers themselves should play a role in defining teacher-initiated PD. Extending this idea to the factor of *relevancy* the teacher should also be able to define what is relevant to *them*, which will be influenced by a range of external factors and will change depending on the situation. The next key factor of *ownership* will facilitate relevancy and vice versa. A challenge with this is how teachers can authentically take ownership when hierarchical power structures exist, especially within the current climate of performativity and accountability (Sugrue and Mertkan, 2017), and so teachers

may not feel they *can* take ownership, especially when influenced by both organisational and group culture. This is one reason that *agency*, when viewed from an ecological perspective, is dependent on the interplay or interactions between an individual's capacities and wider conditions especially when agency is viewed, not as something someone possesses but works to achieve (Biesta et al., 2015). This may require a deeper acknowledgement and understanding, by the teacher, of their own attributes so they can begin acting to work in this way possibly through 'sense making' (Ketelaar et al., 2012). What further complicates the issue is if there is a perceived lack of control over external factors or influences, which impacts on this sense of self (McArdle and Coutts, 2010). This emergent theme will be addressed in the subsequent section (Chapter 8) under the heading Teacher Identity.

Connecting the factors of agency and ownership to organisational or group culture, is the issue of trust, in particular from leaders, managers and policy makers. As explored earlier (Chapter 6) trust, or mistrust, in education is problematic partly due to a fear of becoming vulnerable but also due to the requirement to measure outcomes and outputs for accountability purposes (Fink, 2016). Freire's banking model (2000) helps explain this insistence on measurement as it serves the needs of industrialised Western society. This bridging of agency and ownership to trust through the issue of accountability is clearly dependent on perception and interpretation. However, applying this to professional development, it could be assumed that everyone working in education shares broadly the same values, yet from personal experience this is not always the case. The issue of accountability becomes problematic when individuals believe they can, or must, impart accountability on to others, possibly to absolve themselves of the responsibility. In situations such as this trust is likely to be eroded further as social capital diminishes, and with it educational improvement (Hargreaves and Fullan, 2012). This requires teachers (and managers and leaders) to undertake deep critical reflection and have personal experience of this, something I encountered myself, as the subsequent vignette shows:



This observation seems to be critical of teachers, but recognising this issue, as part of their reflective practice (Pollard, 2005), can be the first step to addressing it; acknowledgement of areas for development is possible without blame or accountability. Being encouraged to acknowledge such feelings may even facilitate more opportunities for attitudinal PD, which is often lacking (Evans, 2014). If there is a responsibility for teachers to take ownership or control of their professional development, then this may facilitate them to work toward achieving agency. Research literature suggests this will be dependent on confidence, and perceived competence (Ryan and Deci, 2000) which impacts on intrinsic motivation. From a personal perspective I have encountered this, during this research project, by engaging with teachers at TeachMeets, Pedagoo events or using social media. I would argue these teachers fit the 'gourmet omnivore' category (Joyce and Showers, 1988). However, a criticism of such activity is that the 'quality' of PD cannot be guaranteed. In response to this Swanson (2014), when discussing EdCamps, argues teachers must be trusted to make professional judgements. Another challenge is that, despite the presence of these 'gourmet omnivores', there are clearly others in the wider profession who, for many reasons, do not feel or act this way. This may be a deeper lying issue influenced by personal motivation, in particular SDT (Ryan and Deci, 2000), and

teachers' self-confidence or self-awareness. This is an area that would merit further research, and this is introduced in the Next Steps section of Chapter 10.

Returning to the Scottish educational context, a recent report from Scottish Government (2017) stressed the importance of professional learning, stating this should be streamlined and made more coherent, whilst proposing this would be carefully managed stating:

> *Education Scotland will have a renewed focus on professional learning and leadership, providing clarity and coherence to the national landscape. Delivery via the new regional improvement collaboratives will mean that hands on advice, support and guidance can flow directly to schools to support improvement (Scottish Government, 2017, p.7).*

This appears to illustrate there is preference from Scottish Government to retain control or influence over PD. Although conversely, in the same report the Scottish Government appear to acknowledge, albeit indirectly, some of the issues with top-down or overly systemised approaches (in particular the Professional Update process) stating that:

> *Professional learning should be supported by an annual professional review and development discussion and underpinned by Professional Update. We have heard real concerns that in too many cases these have become box-ticking processes rather than a genuine opportunity for professional reflection and an assurance that the entitlement and obligation to professional learning is being delivered (Scottish Government, 2017, p17).*

This clearly reveals tensions between professional learning, and the processes or systems of performance management and accountability, hence teacher-initiated PD may have the potential to challenge this accountability culture. One area not touched on during this research, but worth considering further, is the issue of transparency and openness, which can be lacking in education management.[50] If teachers, leaders and policy makers had access to the same information, and were more in contact with each other, they could discuss and

[50] At the time of writing there were several reports on social media of Scottish Government holding meetings (e.g. with representatives from Teach First), but not keeping minutes. The implication being this was an attempt to circumnavigate the Freedom of Information Request legislation. If accurate this may reveal deeper lying cultural issues around relinquishing information and therefore control.

debate ideas. In turn this transparency may allow for a culture of mutual vulnerability, further enhancing trust (Fink, 2016; Tschannen-Moran, 2014). If handled carefully and positively, transparency may become a reinforcing element as key parties trust each other more, becoming *authentically* transparent, providing greater opportunity to achieve agency.

As discussed earlier in this chapter the issue of trust is closely aligned to collaboration and community, which in turn leads to the next key finding.

Finding 3: Collaboration, community and dialogue can facilitate teacher-initiated PD

The next key finding is that teacher-initiated PD will be facilitated by: collaboration, community and dialogue. The reason for this thematic grouping is because all three factors focus on the personal element of relationships and how this impacts on teacher development. Specifically dialogue, and the process of dialectic, will lead to the formation and reinforcement of both the community and collaboration elements; equally the collaboration and community factors afford the opportunity and space for dialogue. As these interconnected relationship are both complex and difficult to separate out the conclusion is that these factors are correlational, and not necessarily causal.

Referring to the theories of the critical pedagogists, specifically Freire and hooks, the ability to discuss, debate and be heard is essential for learning. Freire identifies this as part of achieving conscientization (Freire, 2013) and there are clear implications for teacher-initiated PD as teachers take control of their own development. This is reflected within research into professional learning communities (discussed earlier), where teachers appreciate the opportunity for dialogue as this allows them to see issues from different perspectives. Within the Evans model of PD (2014) this is represented by the perceptual and evaluative components and is situated alongside the wider motivational component. A potential issue with this finding is that certain views, opinions or ideas may be replicated as there are no alternative perspectives to call on. This criticism could be levelled at insular or isolated PLCs, teachers who create informal networks via social media (especially the Twitter ‘echo chamber’) or amongst those organising

TeachMeets.[51] Therefore, it is essential that such teachers are able to challenge each other and engage in what Snow-Gerono (2005) refers to as 'dissensus'. Subsequently this:

> *…creates a space where dialogue stretches people's ideas so that they have still engaged in a productive exercise where learning and growth occurs in connection to uncertainty' (Snow-Gerono, 2005, p.251).*

In some ways this finding contradicts the suggestion that teacher-initiated PD has an individual or personalised element. This is because the archetypical 'gourmet omnivore' (Joyce and Showers, 2002) may work on their own, accessing development opportunities as needed. Analysis of informal PD (i.e. Twitter) for educational leaders (Jefferis, 2016) has suggested the individual nature of this is an important feature in enabling the formation of fluid networks or communities. This fluidity reduces the likelihood of individuals or groups becoming isolated. Furthermore, the traditional view of what is meant by community or collaboration in education is also evolving, although this may differ depending on situation or context. Therefore school leaders and teachers themselves may need to acknowledge and even embrace this shift.

In conclusion, based on the results of the Delphi study and wider literature, teacher-initiated PD is likely to be heavily influenced by collaboration and community which is instigated or facilitated through teacher dialogue and critical debate. The next key finding relates to factors that could impact on this dialogue and critical debate.

Finding 4: Structure, formality, transient nature or location <u>not</u> important

Much of the literature on PD references the impact on learner outcome. To investigate this, measurement systems and structures are required to judge outputs and outcomes. This may be why the traditional model of formal, structured PD is researched far more than informal PD.

The earlier discussions considered formal, organised PD sessions but also the possibility of informal activity taking place within a more formalised setting. Although this element did not explicitly feature within the Delphi study results

[51] During the final stages of this project someone who had been involved in TeachMeets raised the concern they may be becoming more like cliques.

there is some evidence that informal or incidental learning, located within a more formalised setting (e.g. a PLC) has clear benefits and is valued by teachers (Armour and Yelling, 2007). With traditional PD, practical issues, such as the lack of time and space are often identified (e.g. Bubb and Earley, 2013; Kennedy, 2011; Pedder and Opfer, 2011). In contrast informal learning is flexible, accessible and usually financially cost free, although it is reliant on selected, supportive colleagues (Armour and Yelling, 2007) once again raising the importance of collaboration, discussed in the previous section.

Moving on from practical delivery issues, a future focus for the study of teacher-initiated PD could focus on how learning is internalised. Clearly if learning is taking place internally or implicitly then it would not be possible to structure this activity. Discussing research from the field of psychology conducted by Reber (1993), Evans (2016) considers how teachers may unconsciously learn (although this raises a separate question around how this form of learning can be effectively studied).[52] Additionally investigations into informal learning with students suggests this can facilitate better understanding of personal identity, but crucially the link to formal classroom learning was not always made (Greenhow and Robelia, 2009). If this same issue exists with teachers then the acknowledgment and understanding of how informal learning and PD can have an impact must be addressed. An additional point to consider is whether recognition or acknowledgement of learning changes the nature of this learning. Despite these difficulties, the issue of implicit or informal learning will be considered in the subsequent Emergent Themes Chapter.

One of the key concerns raised around lack of structure or consistency within PD is the lack of impact (Cordingley et al., 2015). Within Scotland the post-Donaldson review (Black et al., 2016) assessed teachers' perceptions of CLPL and a key finding was that there had been an increased focus on impact or outcome for pupils. If this is synonymous with terms such as structure or formality then this should be a consideration within teacher-initiated PD. However, as discussed earlier the issue of impact is highly subjective. One way to judge impact may be through the, often overlooked, intellectual or attitudinal components of teacher development (Evans, 2014). This may be dependent on individual teacher's

[52] Linda Evans, whilst answering questions at a conference in 2016, suggested that developments in neuro-science, and use of scanning brain activity, may one day facilitate this.

sense of self, which may in turn impact on teaching quality and pupil outcomes. If this is the case then measuring PD becomes very difficult, and possibly even counterintuitive, being at odds with the accepted view that:

> *Where professional learners are not given structured, frequent opportunities to engage with, understand and reflect on the implications of new approaches and practices, neither extended time nor greater frequency of contact were sufficient to make substantial changes to teacher practice or improve student outcomes (Cordingley et al., 2015, p.8).*

It may be possible to reconcile this apparent contradiction by offering, structured PD, whilst recognising complementary, informal development can occur implicitly (Evans, 2018) alongside this.

The physical location of teacher PD delivery is of particular interest as it appears this area has not been researched at all. Location is briefly considered in the analysis of PLCs (Stoll et al., 2006) in that travel times may be an important factor. It is also suggested that the wider issue of how professional learning is situated, including context and environment, in models of PD is either limited or missing (Boylan et al., 2017). From personal experience facilitating Masters' learning for teachers (delivered via twilight sessions), hygiene factors (Herzberg et al., 1993) do matter to participants (Beresford-Dey and Holme, 2017) so these should not be ignored. Therefore, there is merit in giving this issue greater attention, especially for those involved in planning their own PD, if only to confirm the findings of the current study. The conclusion from this is that if teachers initiate PD activity themselves they will have control over the location issue, which may in turn facilitate feelings of ownership (discussed in the previous chapter).

Returning to the critical pedagogists, in particular Illich (1971), the application of 'deschooling' and output focused formalised, structured learning within teacher PD may help explain deeper issues within education and wider society. Drawing parallels from the empirical data of the current study, and my own personal development, this desire for accepted structures seems a common theme. During the final stages of this doctoral study I experienced tensions, on both practical and ideological levels, between myself and my supervisors. It was only when I read more of the work of Freire did I better reconcile this as he argues that doctoral candidates should be able to demonstrate risk-taking and adventurous

spirit. This is, Freire contends, because you cannot create within a fixed system of rigid, imposed rules, and so being ‘well-behaved’ may reveal fear (Freire, 2016). In conclusion the presence of structure, formality, location and the transitory nature of PD may be an issue, but this depends on the individual and the wider context. Thus the conclusion from this final finding is one of uncertainty or ambiguity; teacher-initiated PD (or PL) *can* be structured or formal but this is not an essential characteristic. This may be due to the differences between conscious and subconscious learning, and this will be discussed in the next chapter, under the heading Implicit Learning.

Limitations of key findings

The limitations for methods and methodology were discussed earlier (Chapter 3 and Chapter 4). This section will now consider limitations to the findings. The first issue is that this study aimed to map a potential or theoretical concept (DIY or teacher-initiated PD) but did so without a firm starting point due to the lack of solid research evidence and theory on this topic. As the study progressed the link from this alternative form of PD and whether it could provide value or impact repeatedly arose. Even if this study had definitively established teacher-initiated or DIY PD as a discrete form of PD there would be the additional problem of whether key factors were causal or correlational. For example, motivation was seen as a key factor for participants, however it is unlikely an unmotivated teacher would take responsibility for their own PD.

Having considered the findings of this study, associated literature and begun to evaluate my own experiences of education, I would certainly agree with Freire and Illich and the assertion that there are fundamental issues in education, and that these reflect society and vice versa. Freire’s ideas of a banking model of education (2000) or massification (Freire, 2013) are reflected in a desire to measure and monitor education, and hold teachers to account. This use of accountability, or appraisal, for teacher PD is often led by governmental bodies (Craft, 2000) and so to challenge this may be seen as a criticism of political or administrative involvement. This leads on to the next criticism that the results of this study may reflect a particular political viewpoint, one that rejects or resists the neoliberal or capitailist perspectives, especially given the use of the critical pedagogists as a lens for analysis. In addition my own ontological bias (see Chapter 3) and preferences or influences will have impacted on the entire project;

I have needed to recognise this in the same way that Freire acknowledges his socialist roots (Rule, 2011). Of course trying to remain neutral to political influences (of the expert participants, or myself as the researcher), may be neither possible, nor beneficial – as the education sector is not apolitical.

Pollard et al., (2014) argue it is impossible to ignore political influences within education, as policy is often driven by political influences and even ideology, with teachers, civil servants and politicians battling for control. The current expert survey is not immune to this as it included prominent educationalists and practitioners who are likely to be broadly left-leaning in their thinking.[53] This predilection toward a particular political stance was evident in criticisms levelled at the educational 'blob' by the then Westminster Government education secretary Michael Gove (The Economist, 2014). Therefore, teachers and educators must really examine themselves for potential bias and strive for objectivity. Within the current study this is relevant to the participants, my supervisors, myself, and even the examiners who will assess the final formal submission for this research project. Clearly the counter argument to this is that Gove, and other politicians, exist as their own Westminster 'blob'.

Building on this issue of ideological influence, which impacts on my ontology as a researcher, I believe it is important to acknowledge that some of the results from the expert survey surprised me as some statements were not rated as highly as I had expected. For example the agreement over significance of professional conversations (statement 4b.viii) was higher than for TeachMeets (statement 4c.ii) or for social media (statement 4d.ii). I provide this as evidence that I have not led the research in a particular direction and am responding to the results presented by the experts. As a bricoleur I realise that there are alternative ways of demonstrating rigour, beyond the traditional methods, and the ability to view issues from multiple perspectives is key to this process (Kincheloe, 2001). Therefore, through methods such as the reflexive diary and ongoing discussions with supervisors and other professionals, via blogging, social media and in person, I have attempted to challenge my own beliefs re-examining these more objectively, even if this is never entirely possible (Ritchie et al., 2013).

[53] I realise this is an assumption, and not one that can be proven. But I think it is important to at least acknowledge it.

One of the main criticisms of this study is that the Delphi method, which is an attempt to seek consensus, has been applied to a topic of considerable complexity. The traditional Delphi method may be used, for example, to predict the next big development in mobile phone technology, which is relatively straightforward topic. However, with teacher professional development there are clearly lots of issues and variables to be considered and most of these are interlinked or overlap as the project mind-map shows (see Figure 9). One option would have been to utilise an alternative method to investigate the proposed phenomenon, but having reviewed these options (see Chapter 4) this was seen to be the most suitable. As explained earlier, the methods adopted in this study were based on the Delphi method, starting with the open-ended questionnaire before using Likert-type questionnaires to seek consensus. The hour glass shaped model to this iterative study - starting wide, beginning to focus when creating a bank of specific statements, before expanding out into a wide range of findings, and leading to emergent themes - has resulted in many more potential avenues for future exploration. The judgement required to select certain factors or themes to explore, especially at the emergent theme stage, has also been challenging. This has been further complicated by my own susceptibility, as the researcher, to the novelty factor (Houston-Price and Nakai, 2004). But this could also be a positive element as it also adds weight to one of the key findings that defining this topic is challenging – as it is broad ranging and complex and deep.

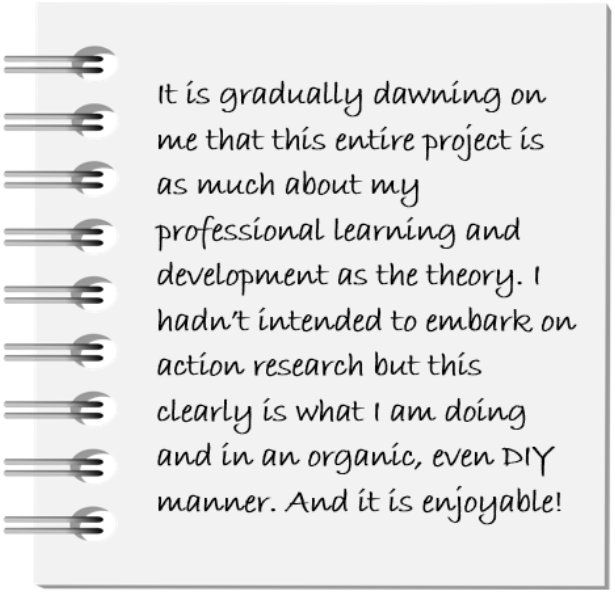
The greatest challenge, and potential limitation, of this study was the tendency of myself as a researcher to ‘go off on tangents’ and explore related ideas and issues and lose focus. An example of this was when I was investigating optionality in engagement in PD. The expert group universally agreed (although not strongly – so was not classed as a notable factor) that choice was important. The research from Cordingley et al. (2015) contradicts this to a degree by suggesting that conscription to PD does not impact on effectiveness. However, via my own investigations, and to try and learn more about this area, led me to the work of Alfie Kohn (2006) as I was looking for research on the idea of ‘pseudo-choice’ in education. The implications of this to the current study is that this variety and meandering may have led to a lack of clear focus on the research questions. In defence of this, throughout the process I have been learning about how I learn, one of my key aims when I embarked on the

doctoral journey (see also Chapter 10). The content and subject and knowledge and even the results from the research come second to the way my thinking and my way of being have developed. I have mitigated against this limitation by carefully editing and removing elements from the final submission document, if I thought this would impact on a coherent explanation and conclusion. Although I have also utilised footnotes to signpost where potential new elements may have opened up. Finally this tangential quality to this project somewhat mirrors the freedom of choice which may exist within teacher-initiated or DIY PD and is justified given the bricolage methodology adopted for this study (Kincheloe, 2001). In conclusion, as a researcher I have balanced carefully the requirement for rigour and precision with the variety and flexibility that both the methodology and topic affords.

Chapter 8 - Emergent themes

This chapter addresses SQ3: What additional emergent themes (resulting from the findings) may inform future investigation and understanding of DIY [teacher-initiated] PD?

Although this study has identified notable factors that represent DIY or teacher–initiated PD there are other related themes which were not directly raised by the experts. These have emerged inductively, facilitated by the bricolage methodology (Kincheloe, 2001), but are influenced heavily by my own ideas and interpretations. The subjective nature of this analysis means this discussion has obvious limitations, explored in more detail in the previous chapter. Criticisms relating to a lack of rigour in this section are therefore accepted and the reader is encouraged to bear this in mind from the outset; they are also encouraged to engage with, and challenge, these ideas so contributing to their own deeper understanding of this topic. In doing this I hope the reader will draw on their own experiences to formulate their own ideas and knowledge, providing an opportunity for the reader to develop their understanding. This represents the same learning process I have been through myself during the doctoral study (illustrated in the vignette below). If this process stimulates questions, new ideas or thoughts I would welcome hearing these.[54]



[54] Anyone who would like to make a comment or discuss anything in this thesis can make contact via email (r.j.holme@dundee.ac.uk) or social media (Twitter @richardjholme).

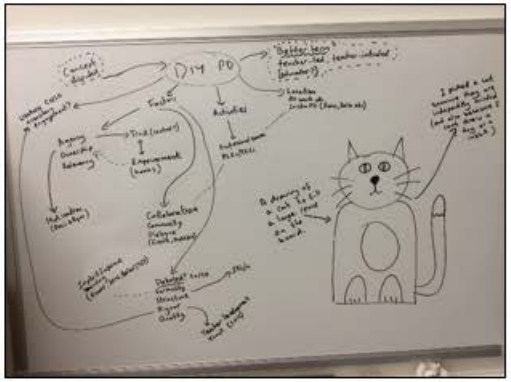
Process of drawing out emergent themes

During the completion of this project I collected thoughts and ideas in a variety of ways including through the reflexive diary, engagement with social media, and via my personal blog. I also used a large wipe-board in my office to identify connections between key issues. Although this was an iterative, subjective and unstructured process (and limited by having only two dimensions!) this helped me refine my thoughts. The results of this evolving process can be seen below (see Figure 9 next page) starting with the results of the Delphi study, drawing in, and on, key literature, building toward emergent themes, and ultimately planning next steps. These images are also an example of data which may be utilised in future research to analyse my own professional development during this period. The key ideas which emerged from these various sources will now be discussed.

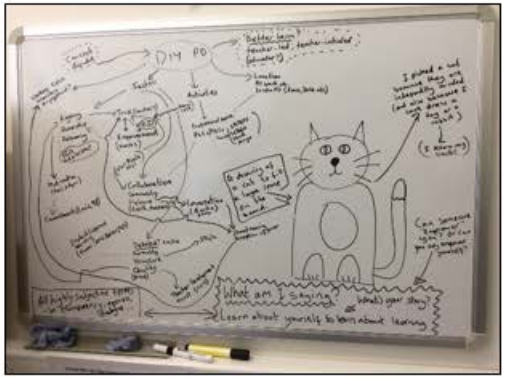
Teacher identity

As discussed earlier issues of ownership, agency and motivation are relevant to the proposed concept of DIY or teacher-initiated PD. Reflecting on these, informed by educational literature, there are obvious links to an individual's 'sense of self'. This is shown through Ketelaar et al.'s (2012) investigations into teacher interaction with curriculum innovation which draws connections from ownership and agency to sense-making, arguing that these factors are closely linked to teacher identity. In this context sense-making relates to a range of issues, with multiple forms for how teachers make sense of an initiative, ranging from assimilation or accommodation, to distantation (distancing) or toleration (Luttenberg et al., 2013). Priestley et al., (2012) explain that a lack of generative teacher dialogue, which itself could be a key mechanism for sense-making, can stifle teacher agency.

Teacher identity can be better understood through social identity theory (Tajfel and Turner, 1979) and the three stages which include social categorisation, social identity and social comparison. In primary education systems this could apply between stages or teams of teachers and in a secondary school setting this may be relevant between departments, although these groups may also extend beyond the normal team or school boundaries. The implications for this, within DIY or teacher-initiated PD, is that these could be highly formalised groups or teams or alternatively more informal groups, such as within a PLC or even a personal learning network including social media.

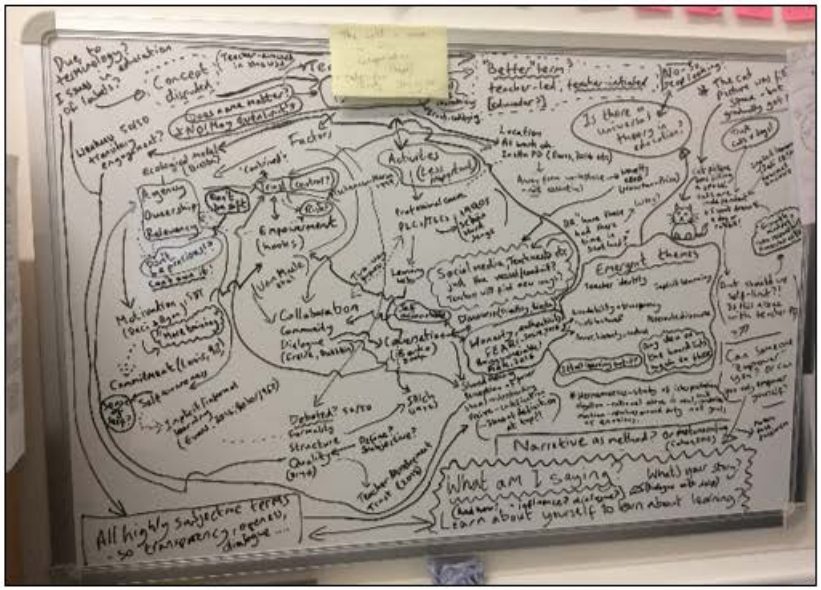


1. Initial mind-map, results of Delphi

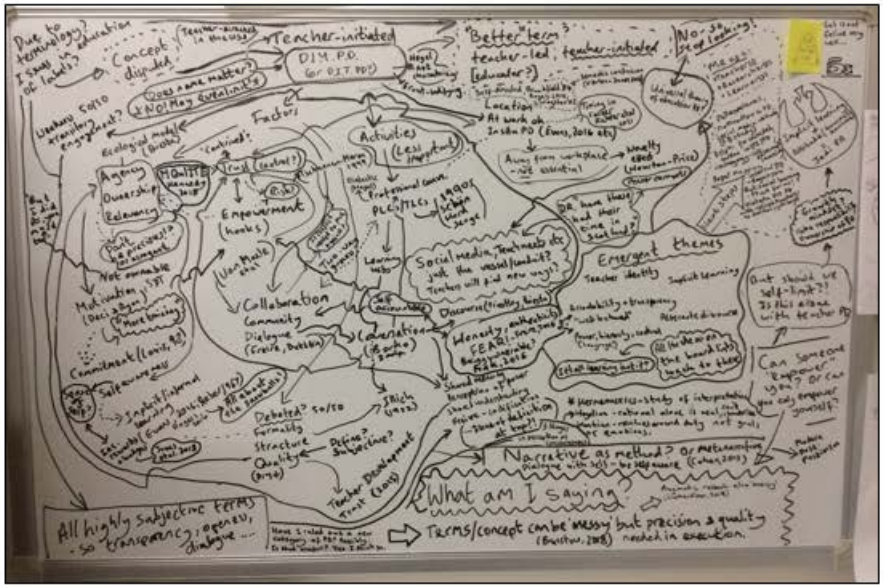


2. Linking results of Delphi study.

3. Drawing in literature.



4. Emergent themes developing.



5. Submission day mind-map, including next steps.

Figure 9: Evolution of project mind-map showing themes, factors, theories and areas of connection

Pollard (2014) argues that significant individuals can impact on a teacher's professional experience so also help shape feelings of identity. This can also impact on decisions teachers make relating to their career development (Holme et al., 2016), such as moving from school teaching into teacher education. Therefore, it is important to consider how DIY or teacher-initiated PD would work for those who are more individual in nature and so are less likely to have a shared identity with others. In extreme cases this could lead to the isolation of individual teachers, or alternatively, groups of like-minded teachers may reject professional development activity entirely. This is supported by research which suggests that when groups feel under threat the sense of identity increases, but may do so at the expense of the others (Islam, 2014). Consequently DIY or teacher-initiated PD may, inadvertently, create greater discord amongst the wider teaching community. If this occurs through the development of social structures, and possibly the reduction of hierarchies or silos, then teachers may begin to initiate their own PD as they feel greater ownership. This in turn may be facilitated by greater debate, discussion and even openness in educational settings including some of the ideas, such as emancipation, espoused by the critical pedagogists (Vlieghe, 2016).

The interactions between individual teachers, groups and the entire education community will clearly influence a sense of identity. Hence teacher identity should be considered alongside the earlier themes of collaboration and collaborative practice. Returning to the theoretical view of collaboration, it can include 'life projects', which Blunden argues forms 'the core of a person's identity' (Blunden, 2014, p.15). This reflects the career-long view of teacher PD and one way for teachers to achieve this could be through engagement in greater levels of narrative or life story analysis with peers, which has been used in the current project. The importance of reflective practice (Pollard, 2005) would be crucial for this but provides further opportunity for teachers to understand their own developing identity.

Drawing on findings and theories previously discussed, motivation will also play an important part in the development of teacher identity and therefore impact on teacher-initiated PD. In particular the work of Deci and Ryan (1985) which, under the umbrella theory of SDT including Cognitive Evaluation Theory (CET), explains that there is an innate psychological requirement for competence and self-

determination (Deci and Ryan, 1985). For teacher PD to be truly self-initiated then a recognition of this is required from all the key stakeholders in education. Being able to state, for example in Professional Standards for Registration for Scottish teachers (GTCS, 2012), that issues such as motivation and self-governance are essential for teachers is insufficient and a deeper shared understanding, possibly achieved through dialogue, of these concepts is required. However, the problem of self-awareness must also be considered and the developing teachers, in terms of the Johari window (Luft and Ingham, 1961), may not be fully aware of what they do not know. This also relates back to the Dunning-Kruger effect (1999) and how unconscious incompetence may limit teachers in understanding self-identity. The Evans (2014) model includes a perceptual and evaluative element which, Evans argues, is often overlooked in traditional PD, but would be essential for teachers to make such judgements. This ability to be aware of what you know, or do not know, has parallels to the next emergent theme, which considers implicit learning; specifically raising the question of whether we can learn to be self-aware consciously or sub-consciously.

Implicit learning

The issue of informality in *learning* was explicitly raised within the findings during the discussion of structure and formality (Chapter 6 and Chapter 7). Building on this idea an additional avenue for analysis would be to consider implicit learning. As with other themes the issue of terminology and definitions immediately presents challenges. In one sense informal learning has been interpreted as meaning the learning that goes on unconsciously, leading to development of tacit knowledge (Eraut, 2004). Further distinction may even separate this learning into incidental or accidental (Rogers, 2014) and the term *implicit learning* has recently been applied more specifically to professional development of teachers (Evans, 2016). Drawing on research into motor skill acquisition[55] there is a suggestion that implicit learning may be more accurate than a person's explicit understanding (Reed et al., 2010). Obviously this is quite different from learning about a concept or applying this to the complex subject of education. However, if learning is considered in this way then it further supports Illich's view that the traditional 'schooling' approach within society may not be fit for purpose, and traditional,

[55] I first heard this being discussed during the interval whilst listening to BBC's Test Match Special cricket broadcast several years ago. The fact I took this in, and decided to explore it later, is itself evidence for my engagement with informal, accidental, learning.

transmissive forms of PD (Kennedy, 2014) may be damaging the development of teachers (Donaldson, 2010).

Leading on from this view, based on the results of this thesis and the associated literature, it may be that education is at a turning point where there is now a better understanding of what teacher-learning actually *is* or should encompass. Subjects such as metacognition and meta-learning (Watkins, 2015), theoretical paradigms and practitioner research are now commonplace in educational debates, suggesting a desire amongst many teachers to understand learning at a deeper level than previously. In addition, the methods of access to learning (e.g. via technology) are also shifting and the way teachers engage with professional development is evolving. However, the consideration of what Evans (2014) classes as attitudinal components within PD (in particular the evaluative element) may be crucial in the next phase of understanding how teachers learn and develop professionally as a result of these changes. This provides a foundation to develop teacher understanding of implicit learning so could be factored in when planning, and engaging with, professional development.

A final point is that researching non-formal or self-directed learning often involves self-identification and reporting from learners, where they are conscious of the process (Livingstone, 2002). If the learning is truly implicit, subconscious or unconscious, then researching this becomes difficult (Rogers, 2014). To measure and study implicit learning may require the involvement of neuroscience,[56] which given the position of education - firmly embedded as a social science - may prove controversial.

Accountability and transparency

The next emergent theme is based on the observation that the education sector appears heavily influenced by a desire to measure, in the name of accountability and performativity (illustrated by examples such as International PISA tests, SATs testing and league tables in England, CfE benchmarks and Primary SNSA testing in Scotland). The recent review of governance in Scottish Education referenced the terms ‘accountable’ and ‘accountability’ twenty-five times (Scottish Government, 2017). The move from traditional models of transmission to

[56] This possibility was raised by Linda Evans when presenting a paper on Implicit PD at the IPDA conference in 2016.

transformative approaches requires teachers to take personal responsibility for their professional development. If there is to be a move away from a top-down systems in education then striking the balance between all those involved in the process is crucial, as Elmore (2002) argues:

> *Accountability must be a reciprocal process. For every increment of performance I demand from you, I have an equal responsibility to provide you with the capacity to meet that expectation. Likewise, for every investment you make in my skill and knowledge, I have a reciprocal responsibility to demonstrate some new increment in performance. This is the principle of "reciprocity of accountability for capacity" (Elmore, 2002, p. 5).*

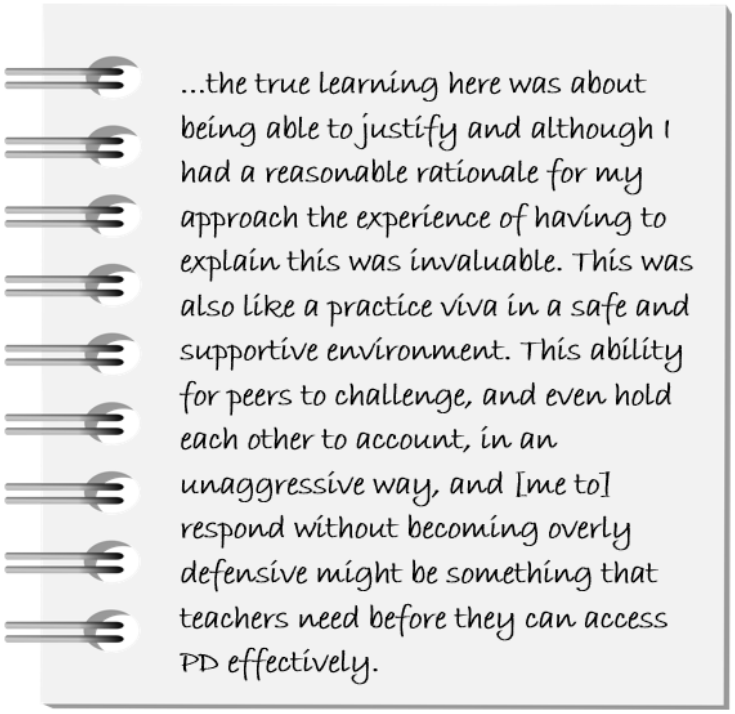
This point about reciprocity is especially pertinent as it may require a collaborative environment, from across the education sector, to flourish.

The location of PD delivery also has implications for accountability. In recent years, as explored earlier, the boundaries between school-based activity and informal professional development activity have become more porous and this has coincided with, or possibly driven, more collaborative action (Boylan, 2018). Boylan (2018) argues this is in part due to increased emphasis on dispersed leadership and personal responsibility and accountability. If teachers are to take this further, and the recent Scottish Government report on governance in education highlights that school and teachers should be leading developments within education (Scottish Government, 2017), then this presents a challenge. There has been a tendency, certainly within the Scottish educational context, for greater centralisation and the accountability, for example with the reintroduction of primary testing. This seems at odds with the rhetoric over devolved responsibility to teacher level and may be driven by an underlying political ideology of performativity in education and the resulting culture of control (Sugrue and Mertkan, 2017). As a result teachers may find themselves at a metaphorical crossroads, trying to rationalise the conflicting requirement of exercising independence, holding themselves to account, whilst operating within a system of increasing external accountability situated within a professional culture that defers to seniority. There are clear implications here for models and theories of leadership, such as distributed leadership; however as this was not a key focus of the current study it will not be explored in further detail. Yet future investigation of the links between DIY or teacher-initiated PD and distributed leadership should

be explored, especially as the impact of this on learner outcome could be disputed (Hartley, 2007).

Moving on from structural accountability, the personal or individual factors situated within the attitudinal and intellectual components of the Evans model (2014), are even more complex. The interactions between teachers, when engaging with PD, will be subject to a range of personal factors that will influence how, and to what level, someone is able to take responsibility. Applying a Freirean analysis would suggest teachers themselves can take control and this could be achieved through a process of conscientization (Freire, 2013), which may include informal political influence. In addition, if responsibility for PD is relinquished by managers and policy makers, and handed to teachers, these complex interpersonal issues become even more important and theoretical models for PD (such as Evans componential model) may support teachers in understanding this.

A final point is that if teachers are to be personally accountable and take responsibility for their PD then this requires a sound understanding of their own motivations and the personal influences. This has implications for self-awareness and self-identity, discussed earlier in this section, processes which will be facilitated through greater openness and transparency. Some educators may be achieving this by engaging in open debate through social media or via PLC based groups such as TeachMeets, although these can also raise tensions (Jefferis, 2016) and even provoke argument. If executed constructively this could help teachers hold each other, and ultimately themselves, to account. An extract from the reflexive diary shows how I encountered this first-hand when attending the departmental early career researcher session (see vignette below) and was asked to defend this use of descriptive statistics in this Doctoral project:



Further examining my own experience, this time whilst writing a blog, I have gained confidence in being honest (especially with myself) and receiving comments and feedback and I have learnt from the process especially when comments have been challenging in nature (e.g. Holme, 2016). This brings to mind the ideas of dialectic or discussion for developing agency (Edwards, 2015), although as with many of the other key issues discussed so far, this also relies on trust, of myself and the people I engage with. Students at the University of Dundee are encouraged to blog about their personal and professional development but many are self-conscious of being judged or held to account for what they say.[57] As a result it appears they do not engage at all or moderate and self-edit what they write. Education, certainly in the UK, may only be at the beginning of this move to greater openness and transparency and if this continues the very nature of accountability may change, with people more inclined to share ideas, allowing space for discussion, debate and alternate discourse from which teachers may learn and develop. This topic of 'alternate discourse' forms the basis for the next emergent theme.

[57] At time of writing colleague are researching this, and are yet to publish the results, but this appears to be a key theme.

Alternate discourse

The next emergent theme is closely related to professional conversation and dialogue, already discussed in detail (Chapter 6 and Chapter 7); however, this emergent theme has the more specific or nuanced focus as recognition of alternate positions are involved with this form of discourse. In the early stages of this research project, when the term DIY PD was initially suggested, other terms were proposed including ‘rogue’ or ‘radical’ PD. The rationale for this was that there was something subversive about this group within teaching who were deviating from the traditional path of top-down PD, and so reflecting this, the term *alternate* discourse (without including positive or negative judgment) will be considered.

Philpott and Oates (2017) draw links from agency to ownership and, whilst citing the work of Stillman and Anderson (2015), raise the issue of dialectic interplay and consider how engagement with policy, and *living* this, differs from *delivering* it. The suggestion is that this idea of appropriation can be driven by dialogue, and the dialectic processes; although, if only a single, or dominant, discourse exists there is the question of how this option would emerge at all (Philpott and Oates, 2017) especially viewed through the lens of critical pedagogy theory (e.g. Freire, 2013; hooks, 2014; Illich, 1971). Here the Hegelian theory of dialectic, moving from thesis to antithesis, then synthesis, before internalising these ideas, can be applied, not just for teacher-initiated PD but also applied to my development during this project (this will be explored in Chapter 10). This mirrors internalising motivation, drawing on Self-Determination Theory, explored within the earlier notable factor of motivation (Chapter 6). Therefore, discussion, dialogue and debate on alternative discourse may facilitate or even empower teachers and educators to initiate or lead PD. There should, however, be consideration that those involved with PD may not start with the same base views (Biesta et al., 2015) and so those power holders, school leaders, those working in teacher education, or the teachers themselves, may need to encourage those with alternative views so as to catalyse the redefinition of ideas. It is likely that hooks, Freire and the critical pedagogists would argue that those in positions of hegemonic dominance must therefore open themselves to potential challenge; although acceptance of this may present problems (see next section on Power, Hierarchy and Control).

As discussed in the previous section, and from personal experience, education in general appears to suffer from the paradoxical problem that whilst it can be liberating or empowering it is often carefully monitored and controlled. This may be an issue of an inherently untrusting education systems (Fink, 2016), stemming from a fear amongst teachers of speaking out and challenging, or amongst leaders that this will lead to a loss of control and diminish their standing. This may say more about the self-awareness or self-consciousness of the leadership group than it does about the teachers who should ultimately be benefitting from PD.

This suggestion leads us back again to the critical pedagogists, and Freire in particular, who argue that a lack of debate and dialogue allows people to subjugate others. Freire identifies the concept of antidialogue (Freire, 2000) and explains how this is used by oppressors to maintain their hegemonic position. Applying this theory to teacher PD, the ability of teachers to engage with alternate discourse may challenge, ultimately flattening, these structures, opening up an environment where professional development can flourish. Freire (2000) also raises the issue that, with dialogic action, the aim should be radicalisation rather than sectarianism. Within teacher development this must be something to consider as individuals may begin to express alternate discourse, or raise challenging ideas, but in doing so feel more empowered to push their own ontologically informed (and possibly biased) views. From a personal perspective I have witnessed this with social media, in particular Twitter, and the partisan debate that has developed over the issue of ‘prog’, or progressive, and ‘trad’, traditional, ideologies in teaching (Turvey, 2017). As an antidote to this Freire’s argument for cultural synthesis could be applied allowing the development of a ‘knowledge of the alienated cultures’ (Freire, 2000, p.181) and yet again this links back to the earlier theme of collaboration within teaching and teacher PD.

One of the key findings from this entire research project is the problem associated with terminology and shared understanding; this has clear implications for the emergent theme of alternate discourse. The ultimate benefit from involving alternate discourse, for developmental purposes, is that this could lead to teachers better understanding what they d*o* not understand. This may then create the conditions for discussion and developmental learning, without fear of judgement or being held to account (as discussed in the previous section). In turn

teachers may be able to develop and learn without fear of authoritarian intervention, which is considered within the next emergent theme.

Power, hierarchy and control

The final emergent theme builds on the previous two of accountability and alternate discourse. Both of these have the potential to support developmental activity outside of a traditional, authoritarian structure and in turn facilitate the reduction of a reliance on power, hierarchy and control. It would, of course, be naïve to assume that this could occur instantly or would solve all the issues related to transmissive forms of PD (Kennedy, 2005). Indeed for teachers to develop a more progressive (and this term could also be debated), alternative voice they themselves may, paradoxically, develop a greater confidence or sense of self but then be drawn to become more authoritarian.[58] There may also be circumstances when power and control is essential within education, as with wider society, for example with safe guarding or if health and safety issues are involved. Furthermore, the removal of all external control may result in libertarian style anarchy.

The issue of challenging accepted viewpoints, for example through alternate discourse, has very close links to trust which in turn is connected to power and hierarchy. Throughout this research project the issue of power, hierarchy and control has repeatedly surfaced, and is closely connected to trust. This was partly due to the selected theoretical lens of critical pedagogy, and my own personal ontological bias, but the research evidence, notable statements and associated discussion suggest this is an important issue. Interestingly research comparing formal teacher-initiated PD sessions identified that these did not differ in format or content to those organised by the formal institutions i.e. school districts (Joyce et al., 2009). Of course there may be other explanations for this as once permitted to organise PD events it is not surprising that these replicated the existing format. It could also be that those selected to lead these initiatives were done so by those in positions of power, possibly even unconsciously, as they were most similar to them in ideological view and so would maintain the status quo. Therefore, perhaps the issue of power should focus on how teachers are able to take control,

[58] This is something I have encountered as I have developed as a researcher and manager in academic setting.

without fear of recourse or reprisal, but achieving this may require a change in the wider culture of education.

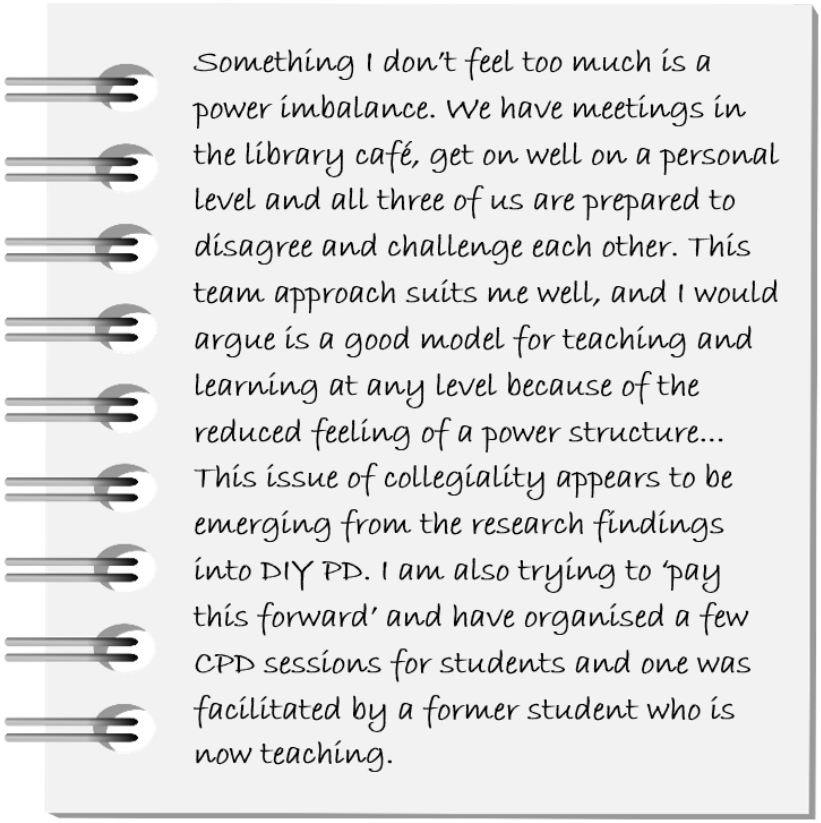
An alternative view is that by its very nature education requires some form of leadership, and even the most devolved or distributed systems will involve someone taking a lead, at some point. Even if professional development in Scotland is moving toward what Black et al. call ‘a blend of tailored individual development and school improvement’ (2016, p.47) there may still require someone to be responsible for this. This is not to say that a move away from top-down systems should not be sought but this must start with an acknowledgement, and possibly a debate across education, about power structures. The review of governance in Scottish Education (Scottish Government, 2017), which included teacher professional development, has proposed greater autonomy for teachers and schools, whilst also advocating new Regional Improvement Collaboratives (RICs).[59] These groups are intended to give greater autonomy to schools and teachers although critics may suggest they may be simply adding another layer of control.

During the final redrafting stages of this thesis, post-viva, I attended a weekend CPD event, which had an impact on my own thinking and understanding. The event focussed on digital technology was organised by the Tayside Regional Improvement Collaborative (TRIC), and the keynote speaker (consultant David Cameron) drew attention to the genuine sense of collegiality amongst participants and talked about the putting the *collaboration* into the RIC. In additional there are obviously overlaps to the community of practice model (Wenger, 1998) introduced in Chapter 2 and explored further in Chapter 6. It is possible that this sort of event could be very broadly ‘owned’ by RIC members or the teachers, and the presence of school pupils may also have had a positive impact. However, I concluded from the experience that it is also possible that events, with some formal involvement, could still be delivered with far less requirement for power and control resulting in genuine ownership for the beneficiaries. In fact, during the concluding remarks, David Cameron compared the RIC event to a TeachMeet.

[59] The introduction of these organisations would make a fascinating future case study with certain regions operating quite differently.

Of course these issues view power and control from a group perspective, and an alternative angle is to consider individual power. This has overlaps to the notable characteristics of agency and ownership, and motivation (discussed in Chapter 6). In particular the theories of SDT (Deci and Ryan, 1985) self-efficacy (Bandura, 1997) - and the way in which individuals believe they can succeed or achieve - have implications for individual power with grassroots teacher PD. It could be argued that neoliberal influences on the UK model of education results in a one-size fits all standardised system which requires individuals to both conform then compete against each other. Therefore, it may be unsurprising that teachers, including those undertaking PD, apply these principles to their own development and learning. If this is the case then engagement with DIY or teacher-initiated PD may be a result of some teachers challenging this situation, but may also require high levels of self-determination (Deci and Ryan, 1985) and self-efficacy (Bandura, 1997). Therefore, the challenge for the teaching community is to embrace and foster this, possibly through contesting the hegemonic educational ideology of individuality within a controlled and standardised system.

One of the major criticism of the current study could be that the process of doctoral research, and the adopted methods and methodologies, reflect a powerbase or elite in their own right. This includes: myself as the researcher and author, my supervisors, and even the examining external academics. Interestingly my own experience as a learner, working with my supervisors, within the doctoral process has felt more egalitarian, as the vignette below shows. That said, this example also illustrates how conditions such as: mutual trust, alternate discourse, and learning locations that cross the formal and informal divide (library learning space and café), can facilitate effective developmental and learning activity. The result is a greater appreciation of collegiality and desire to share this.



What I need to do is recognise when I *do* occupy a position of power, and in that case may need to step back. To me this may be the antidote to what Illich termed the post-professional ethos (Illich, 1977) where overly controlling, bureaucratic systems are de-professionalising the teaching profession. Illich may argue this is unavoidable as society will always be developing and evolving and is inherently uncontrollable; education reflects society and society in turn reflects the systems of education. If this is applied to professional development then teachers will always be reacting and simply taking opportunities as they arise beyond formal systems and structures. Therefore, DIY or teacher-initiated professional development may have always existed, in different forms, but only now is it becoming more readily recognised.

Chapter 9 - Contribution of thesis to teacher education

The discussion over the purpose of doctoral study has grown in recent years with a distinction being made between the product (production of knowledge) versus process (individual development) (Åkerlind and McAlpine, 2017). This is supported by the work of Skakni (2018, p.7) who, combining these elements, suggests that institutional aims of PhD study can include training 'autonomous researchers who are able to contribute significantly to their research field'. It is important to note that the product here – acquisition of skills and knowledge – may be viewed differently from the product within Freire's banking model of education (Freire, 2000).

Whilst investigating the views of doctoral supervisors Åkerlind and McAlpine (2017) suggested the purpose of a PhD included four elements relating to the 'process' or personal individual development of the researcher, and these will be explored in Chapter 10. And other research has suggested that the doctoral process is usually more focused on developing the skills of a researcher, than the production of an end-product such as a thesis (Holbrook et al., 2014). As the current doctoral project has focused on the highly personal topic of teacher-initiated PD, and utilised a reflexive diary, there has been considerable opportunity for me, as researcher and learner, to undergo this personal individual development – and this will be explored in Chapter 10. However, two additional purposes of doctoral study have been identified, namely: creating knowledge, and producing original work benefitting the community (Åkerlind and McAlpine, 2017). The original contribution for this research project will be explained, and recommendations made with the strong caveat that, given the nature of this study (in particular limitations discussed elsewhere), findings are not over generalised.

The first implication from the research is that an open and transparent debate and discussion is required, by all stakeholders, about the very nature and purpose of professional development and the associated aims, and how this impacts on education.

Implications for national government, local authority and school administration and managers

The results of the current study highlight the difficulty with defining and categorising all forms of teacher PD with one expert, at the end of round 1 of the

Delphi study, suggesting that: *'there are *endless* discussions about the meaning of PD'* (Appendix 8c). Weston and Clay (2018) suggest it is unhelpful to separate teacher learning and development, although they also recognise this may irritate those who have arrived at a clear personal definition. Alongside this Rogers (2014, p.12) argues that there is a pervasive tendency to equate learning with participating in learning activities. Therefore, it seems fair to assume that varied interpretation and understanding, highlighted by the current study, will also be present amongst the wider teaching community (implications for this group will be considered subsequently). And so the naming, labelling and classification of forms of PD may, counter-intuitively, be limiting understanding within education, and this must be acknowledged by governmental and administrative bodies in particular. Whilst discussing self-directed adult learning Brookfield (1984) suggests semantic confusion can have profound implications. In conclusion, the existence, and potential value, of teacher-initiated PD (or PL), must be acknowledged by leaders, managers and stakeholder organisations, but *without* reducing the classification and categorisation to a semantic argument (O'Brien and Jones, 2014).

The next element to consider is that leaders, managers and stakeholder organisations must begin to accept that many teachers want to be involved in dictating and leading their own PD. Burstow (2018) discusses the value of 'bottom up' professional learning within formal examples, but draws attention to the fact that permission is often 'granted' by managers. Rich Czyz, a school manager based in the US, goes further suggesting that 'not all administrators [school managers] believe in personalized or self-directed PD' (Czyz, 2017, p.10). Further to this, Carpenter (2016a) argues these managers or administrators may feel threatened by such grassroots approaches. Despite this, from personal experience, the relevance of more teacher-initiated related PD activity appears to be gaining traction amongst school managers and associated organisations. For example, during recent years I have witnessed local authorities presenting at TeachMeets, and organisations such as the GTCS and SCEL become more actively involved in this sort of PD, even organising their own events such as Pegagoo. Given that a key finding of the current study is that collaboration is an important factor, this could be a positive opportunity. Nevertheless, this involvement also presents a challenge as the key factors of ownership, agency

and trust may be impacted by external or hierarchical involvement. On this theme, whilst describing a teacher-initiated programme of professional development, and the involvement of managers or leaders Loewen (1996) draws the interesting conclusion that ‘merely allowing teachers free reign to develop their own professional development activities is not enough’ (Loewen, 1996, pp.72-23).

It seems, therefore, that a genuine joint approach is required whereby all involved understand the requirements, and point of view, of others. In addition, external organisations should also consider their motivations very carefully when deciding to engage with these networks and associated activity or events, and if asked not to participate by the teachers who ‘own’ the PD they should respect this request. Clearly the key facilitation factor of collaboration (discussed in Chapter 6) is crucial if the wider educational community is to effectively assimilate teacher-initiated, or DIY PD, within general PD. Genuine collaboration is difficult, and borrowing from the findings of Bevin and Price (2014, p.282), who looked at collaboration between teachers and academics, it must be recognised that ‘a bungled attempt at collaboration has the potential to drive development backwards’. The implication is that a shared understanding focusing on the purpose and process of PD is essential. Through this shared understanding a culture of respect can develop and this will further facilitate the development of trust.

The central recommendation is that within the educational administration community the issue of teacher agency – in the sense that it is something teachers work toward developing (Biesta et al., 2015) – must be emphasised and teachers must be given the opportunity to better understand this concept and relate it to themselves. One option to facilitate this recommendation is to explicitly include this element within teacher standards; however, this is the sort of issue that procedure and policy documentation cannot address alone, and is heavily influenced by culture. This is a huge challenge for national government, local authority and school administrators and managers – especially if the culture is top-down or hierarchical - as it is a delicate issue, and arguably *beyond* the remit of these groups. Finally, as explored earlier, alternate dialogue and genuine trust are required to facilitate this recommendation.

Implications for the Academy and teacher educators

During the process of this research project I was able to attend PD sessions organised or facilitated by education students on the courses I support. However, I also encountered hesitancy and at times suspicion of these sessions from colleagues within the Academy. This included a request that future examples of student-initiated CPD were 'quality controlled' by a member of the academic team, despite there being no formal line of accountability to the academic team.[60] This mirrors the experiences of Cyzy (2017) who suggests that administrators may wish to check or validate PD activity – suggesting underlying issues of (dis)trust. This desire for influence or control is not unusual and permeates most of education, from small department level to national government level (Burstow, 2018) and may be representative of the wider culture within education. I have encountered this myself as a teacher, and also a teacher educator and so must also recognise that I may be susceptible to this tendency myself.

The conclusion here is that the development of greater trust, between educators and learners, is essential and encourage student teachers to own their PD. In the same way that teachers in Scotland are beginning to understand this better (Black et al., 2016) perhaps it is time teacher educators shifted their own thinking too. I must also take personal responsibility for this, and help foster this trust. One way in which I will aim to do this is through embracing and modelling vulnerability (Tschannen-Moran, 2001; Tschannen-Moran, 2014).

Learning from the education of school-based learners, a key factor will be the development of dialogic development (Alexander, 2017) between national government, local authority, school administration and managers and the teachers themselves. Some of these approaches do feature within teacher education, but may not yet be transferring into practice. This presents a counter challenge as those who are already supportive of these approaches may become evangelic, rejecting any form of formalised or organised PD, which could include Masters-level learning and research activity. If this is the case, very much like with the 'gourmet omnivores' (Joyce and Showers, 2002), this group may then be viewed with even greater suspicion by the remainder of the teaching profession.

[60] I discussed this example in the reflexive diary and it made me re-evaluate the way I approached teaching, but crucially it highlighted to me that I did not always trust students or colleagues myself either.

This may lead to a splintering of groups of teachers with particular beliefs, with ‘resistors’ (the reticent consumers in the Joyce and Showers classification) in opposition to ‘enthusiasts’ and ‘converts’ (Burstow, 2018), which ultimately may lead to those in the minority moving on to new roles, or simply causing greater animosity within the profession.

If the teacher education community is to accept the concept of teacher-initiated PD then this may be facilitated through greater provision of opportunity for self-development. In Scotland the GTCS attempt to do this through a range of systems including the Professional Recognition process (GTCS, 2015b) and professional update (GTCS, 2015a) but this is still formalised and requires a sign-off or validation from another party. Within the Academy moving beyond informal or self-initiated professional development this could be applied to formal University assessments and professional practice. In some ways this occurs already, and within most University departments the idea of self-study, or scholarship, seems to be accepted. In spite of this there can also be a tendency to separate research from professional practice and so this might be something I can attempt to bridge, drawing on my experience as a bricoleur in this project.

The final conclusion is that some teacher educators may need to shift their thinking when considering how teachers learn and develop. The ideas of the critical pedagogists, such as emancipatory language development programmes (Freire, 2013), and learning through transgression (hooks, 2014), are good examples of this being utilised within the wider Academy and could be adopted further. Consequently if changes are to be made in the way that PD is valued within the wider teaching profession then those within teacher education, and the university system, must acknowledge that we can all learn with, and from, each other collaboratively.

Implications for individual teachers

The focus of this thesis is individual teacher professional development and so it seems apt that the final group to consider, when discussing the contribution of this research, are individual teachers themselves. This is the area where most benefit may be derived from the findings of this research project as it is these teachers who will have the greatest impact on school-based learners. This is

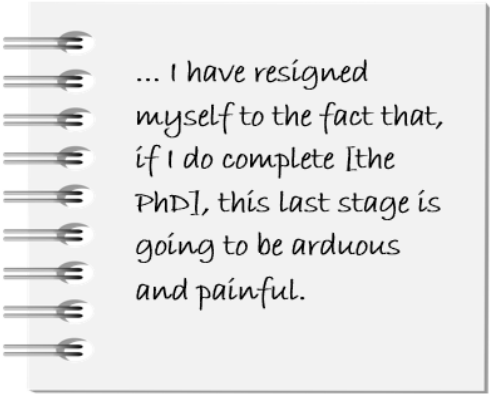
because PD, whether this is activity or programme level, should ultimately impact, directly or indirectly on student learning (Weston and Clay, 2018).

The key recommendation is that these findings should be shared to initiate a discussion of how teachers should, and can, trust each other and themselves. This centres on the concept of agency – and the immediate challenge is how this can be done effectively. Some of the informal PD activities and channels discussed, for example professional learning networks, are ideal for this but individual teachers may also find avenues that fit their personal circumstances. Disseminating this research is a starting point; in some ways the result of this research study show the experts have 'granted permission' and so making research like this available to teachers will show them they should not worry about taking ownership of PD. On a personal level I have begun doing this by discussing and debating key issues through the PGDE programme at my own institution and via social media and through blogging. This is important as the traditional outlet for research, via journals[61] and academic conferences[62], is not readily accessible to, or accessed by, 'chalk-face' teachers.

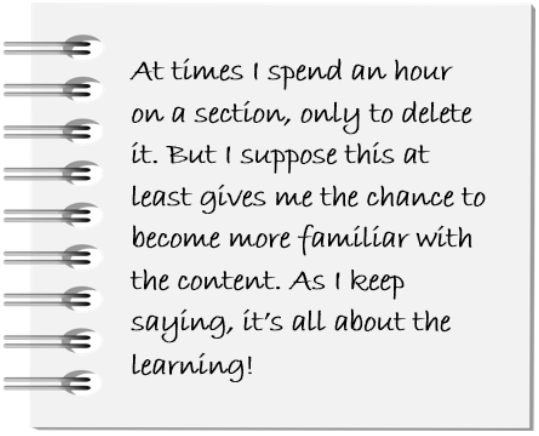
In the same way that governmental bodies should be open to a debate on the nature of education, teachers should also be prepared to do this. Engaging in dialogue and professional conversation may lead to tensions but this could in turn be emancipatory and facilitate further transgression from traditional approaches to educational practice (Freire, 2013; hooks, 2014). Teachers should also feel comfortable to engage in this – although, ironically, this might need to be done in a top-down manner at first. Once this is done both parties must be willing to negotiate and acknowledge the 'messiness' (Burstow, 2018) of the wider school system. Ultimately though, teachers will also need to take responsibility for their own PD as, in turn, these teachers will feel less and less isolated. As educational podcaster Gonzalez suggests, all that may be required is for a single courageous teacher to step up and say 'I tried this, and it was good' (Gonzalez, 2018, no page).

[61] It should be noted that the GTCS has made the EBSCO Education Source collection available to all registered teachers in Scotland.
[62] In the final week before submission I presented results of this project at a conference. The next day I was contacted by a teacher working in a local authority who wanted to share the findings more widely; this gave me the chance to put this recommendation into action.

Underpinning this recommendation is that teachers must also understand the issue of agency. Like the earlier debate over terminology and definition of PD it is important such concepts are also properly explored so differences of interpretation are understood by all. In proposing the componential model of PD Evans (2014) suggests that attitudinal factors (perceptual, evaluative and motivational) are often overlooked within PD, and this may be because, in terms of the Johari window (Luft and Ingham, 1961), those engaging with PD are not always aware of what they do not know. In other words teachers are unaware that there is either a need, or requirement to develop particularly on a motivational level – instead focusing on developing in practical ways (for example investigating new teaching tools or resources). It could be argued that, within the attitudinal components of the Evans (2014) model, this could be addressed via reflective practice (Dewey, 1930) but from my personal experience completing the reflexive diary mirrors the entire Doctoral process journey. This is a complex, deep and at times uncomfortable process; as the vignette below shows:



However, despite these challenges I also saw the benefit of learning from the process, as the reflexive diary also evidences:



Therefore, the final contribution of this thesis is that it serves as an extended appeal to teachers that they can, and should, engage in this difficult, uncomfortable self-analysis and take ownership of their own development. This was highlighted by one of the experts who, on completion of the final round Delphi study questionnaire, added that:

> *…knowledge and understanding of the individual [teacher] first is perhaps a key step in the change process to then impact on actual outcomes for learners (Appendix 12).*

Applying the issue of social identity and social comparison (Tajfel and Turner, 1979) to teacher development this 'understanding of the individual' may be challenging and at times uncomfortable. Therefore, when they do this teachers should be encouraged – possibly even praised - especially by their peers, and never negatively judged for the conclusions they reach. In conclusion the results of this thesis highlight to teachers that they *can and should* engage in, initiate and direct their own PD, and should not feel bad for doing so.

Contribution of thesis to methods of teacher education research

This project has shown that the Delphi method may be employed to investigate consensus amongst experts within education. As explored earlier, this research method is usually applied to predict potential trends (such as in economics or commerce), or to ensure agreement in diagnosis (such as in medicine). Some valuable lessons have been learnt about challenges of subjective opinion and the ways in which data is collected (such as number of categories offered as options). The use of this method also allowed a general view of the concept or phenomenon of teacher-initiated or DIY PD to be established and so the potential applications within education, which itself is an evolving field, are wide and varied. Thus, the recommendation is that when investigating teacher education, and even education in general, the Delphi method should be considered. An interesting finding from the current study came from the contested statements where there was close to 50/50 agreement/disagreement. This use of the Delphi to investigate *disconcensus* may be particularly enlightening within the field of education. The starting point, to explore how the Delphi method may be used in educational research, could in fact be an expert survey![63] In the week before

[63] Taken at face value this might seem a little flippant, but it is a genuine suggestion.

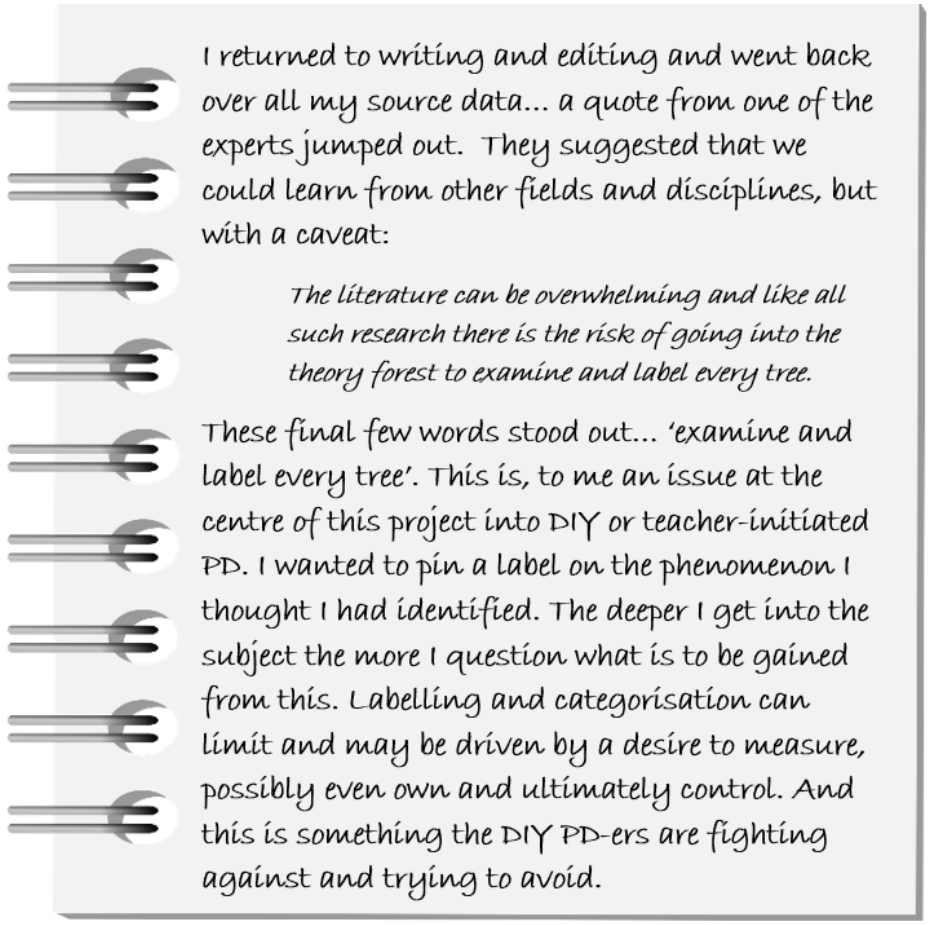
submission of this thesis I presented at our departmental research conference, within the same session was my supervisor. They were reporting on research they had carried out using the Delphi method and this, they told me, was after I had introduced it to them.

Of course there are limitations with the use of the Delphi method, in particular relating to objectivity of the expert group. Firstly there may be problems relating to the suspicion of experts amongst the education community, in the same way that former Westminster education secretary Michael Gove famously dismissed the views of experts (Riley-Smith and Wilkinson, 2016) and has referred to the educational establishment as ‘the blob’ (The Economist, 2014). Furthermore, the selection of experts was a challenge in the current study, whereas experts within medicine experts, such as in an area like oncology, may be clearly identifiable, although the potential for bias towards GOBSATs (Wakeford, 2000) should also be recognised, as discussed earlier. The final risk to consider is that there may be a reluctance in education to explore novel and unusual future issues. This is because within UK education teachers have been subjected to new initiatives for many decades and although many appear to fade they then resurface repackaged in different ways. If Delphi studies simply encouraged curriculum designers and policy makers to produce new initiatives, at greater frequency, then the teaching profession may become further confused, exhausted and disillusioned.

Conclusion on contribution of the thesis

The results of this research have hopefully added to the understanding of teacher-initiated professional development and led to the recommendations detailed above, and earlier.

At the outset of this research project the aim had been to produce a clear definition for DIY PD, but possibly the main finding is that this has not been possible. The recognition of this was recorded in the reflexive diary, and presented in the vignette below:



Reflecting on his own career Burstow (2018) repeatedly states education is 'messy' and so reducing this research project to a checklist of 'things to be done' that could be easily measured would be either counter-productive or of no value. However, the precision and rigour within development of tailored PD, teacher-initiated or otherwise, should not be ignored.

A final, unexpected consequence, of this project is the impact it had on the expert participants with one, at the end of round 2, commenting:

> *Finally, thanks for all this. It has made me think and the research cries out to be done! (Appendix 12)*

Clearly this project has given the experts the opportunity to consider, and reconsider PD, teacher-initiated or otherwise. So this is probably where the thesis should end; however, given the highly personal nature of the topic I will include one final chapter. I will conclude by discussing the implications for my own personal development as a researcher, teacher and learner.

Chapter 10 – Contribution to personal development and consideration of reflexive diary

This section addresses SQ4: What are the personal implications (for me as a researcher) of engaging in this research, utilising DIY [or teacher-initiated] PD?

Given that the focus of this study was teachers' professional development it, would be a missed opportunity to ignore my *own* professional development, as a *teacher*, but also as a *researcher* and a *learner.* This final chapter discusses my professional development journey. It is important to note this section is highly subjective in nature, written from a personal perspective, in a less formal style; as a result the reader is encouraged to challenge the ideas and draw their own conclusions. This idea developed as the research design stage developed, as the vignette (below) from the reflexive diary shows.

The use or narrative biography is a recognised approach in educational research (Wellington, 2000), and a form of action research which 'includes reflexive and dialectical critique' (McNiff and Whitehead, 2016). This section also provides a chance to further develop my 'voice' as a researcher and academic. A key finding

from the research (discussed in Chapter 6) is the importance of professional conversation. I see this section as a chance to enter into reflective dialogue or discourse with myself, and give readers the opportunity to draw their own conclusions. I recognise some of the thoughts and opinions may stray beyond the accepted view of 'rigour' expected at this level of study, but this is unavoidable as I want to represent myself authentically to the reader.

The reflexive diary developed following encouragement from supervisors and also followed a piece of research, completed with colleagues focusing on becoming a teacher educator (Holme et al., 2016). That experience of using biographical narrative to understand issues, and crucially analyse myself, was liberating. The process of writing and reflecting for this doctoral study had the same positive impact. This theme of 'becoming' mirrors the view of agency being something we do as individuals (Priestley et al., 2012) and can manage to achieve (Priestley et al., 2015). This section also provides me with the opportunity to further explore my teacher identity, one of the emergent themes covered in Chapter 8.

I will now consider my reflections, what I have learnt, and how I may use this in future. One of the key criticisms of any autobiographical research method is that it is self-indulgent and has major potential for bias (Cohen et al., 2013) so with this in mind this section has been kept deliberately short. This chapter also provides the basis for the next stage in my development as a researcher, a teacher and a learner.

Personal development as a researcher

The basis of this entire professional doctorate project is research. When I work with Masters-level students I try and reiterate that their learning as researchers is as important, if not more so, than the results of the research project they are completing. Although doctoral study is expected to make a significant contribution to the field, I believe the importance of my own development and learning is equally important. Discussing the professional doctorate the view of McCallin and Nayar appears to support this:

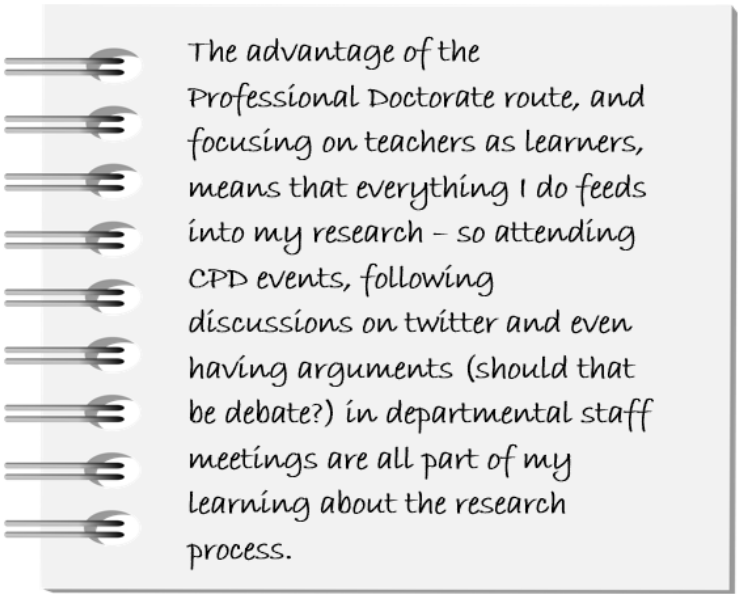
> *The aim is to develop students so that they have the research capability to become active contributors to the knowledge economy in the workplace. (McCallin and Nayar, 2012, p.69)*

This project has allowed me to link my role as teacher educator to the research I have completed, with a gradual layering and deepening of all four elements of Kolb's experiential learning cycle (Kolb, 1984), whilst simultaneously recognising I am not a 'lone scientist' and influenced by socio-cultural context (Philpott, 2014). This represents the notable characteristic, identified in the current research, of collaboration, community and dialogue, as I have developed my own professional network linking with other educational researchers. This has included other PhD researchers, academics, teachers, policy makers, administrators and the students I support (as the vignette below shows).

I have also developed a far deeper understanding of the topic of professional development and learning and enhanced my understanding of many theories and related disciplines (including critical pedagogy, psychology and philosophy[64]), as well as more recent ideas more specific to education (including the work of Evans, Eraut, Rogers and Priestley). Complementing this I have acquired practical research skills relating to executing questionnaires and surveys, processing data and statistical analysis, and drawing out reasoned conclusions. Through adopting a bricolage methodology I have been able to combine all these elements into my

[64] For example: Illich's theory of Deschooling, introduced in Chapter 2; Deci and Ryan's SDT from psychology in Chapter 6; and the brief reference to Hegelian dialectic in Chapter 8.

theoretical researcher's toolbox as the vignette below shows. As a bricoleur I have accessed the development opportunities relevant to my needs, and in doing so believe have been working toward achieving greater personal agency through engaging with research.



One of the main things I have learnt about research is how I view and approach 'knowledge'. Although I always believed I was a critical thinker I now realise I still have a tendency to look for the right or wrong way of doing something. This has connections to Freire's idea of a product focus or 'banking' in education (Freire, 2013). This was highlighted during the writing up stage of this project I began discussing the main findings and each of these sections became miniature literature reviews as new ideas opened up. For a while I battled with this as it did not fit with the recommended or accepted view of how (I thought) a research project should work, and funnel to a single neat conclusion. I now believe this may be a direct result of having been, as Illich would suggest, 'schooled' by society and feeling the need to conform to this. But the advice I give undergraduate and Masters' dissertation students is that the methods should serve a purpose, and in this case this is what I was doing, further typifying the bricolage methodology. Alongside this I began to reconcile the fact, proposed by Eraut (2010), that knowledge is neither an individual or social construct, but more complex. I have become wary of codification or categorisation, and realise pursuing a universal truth, or unifying theories in education, is in fact counterproductive. As my understanding has developed I have begun to trust

myself - another key theme from the research data - and as I did I felt I was learning more, and becoming a more complete researcher.

On a practical level I have applied my learning as a researcher and have been published in various locations, detailed in Table 8. This itself was a valuable learning opportunity and was largely achieved through collaboration with others who I have assimilated into my own professional network.

Table 8: List of personal publications completed during period of professional doctorate

Publication title	**Publication type**
'Do It Yourself' Professional Development (DIY PD) (Holme, 2015a)	Peer reviewed blog (British Educational Research Association)
Becoming a teacher educator – the motivational factors (Holme et al., 2016)	Journal article – empirical research study
Optional assessment submission within Master's-level learning: teachers' perceptions (Beresford-Dey and Holme, 2017)	Journal article – empirical research study
Professionalism in adult education (Gibson et al., 2017) *in* Teaching, Coaching and Mentoring Adult Learners, ed by Fehring and Rodrigues	Book chapter
'Do It Yourself' Professional Development (Holme, 2017)	Podcast interview for Radio Edutalk
The Changing Landscape of Teacher Development in the UK *in* Working papers from CollectivED (Holme and Burstow, 2018)	Peer reviewed Thinkpiece Dialogue (CollectiveED, Leeds Beckett University)

Finally I have also learnt a lot about myself and my influences and preconceptions. Through developing greater self-awareness I now recognise that there may be a range of perspectives, paradigms and approaches to research which overlap. Ontologically speaking I now recognise my position of power, and that relinquishing control and trusting others, I can empower others to engage in future research. Of course this still implies I hold a degree of power and so I must also recognise when I need to 'back off' and leave the space for PD. I need to find the way I can, as a researcher, still observe and learn whilst not adversely impacting on the grassroots PD activity. This also represents a shift in my epistemic positioning, moving from being less fundamentalist to more of a

pragmatic. The vignette below, written around the time I completed the first full draft of this report, illustrates this:

Personal development as a teacher

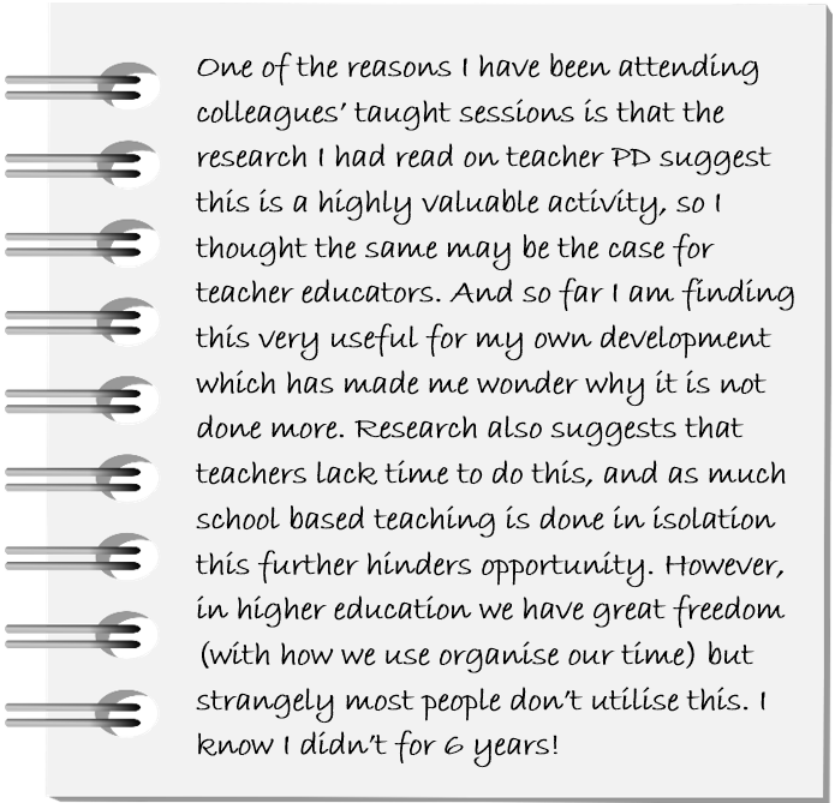
As I have completed this research project, supported by the findings, I have found myself wondering if all teachers have a shared understanding of the purpose of education. Some teachers may believe they do not need to engage in learning or development activity, as they have learned all they need,[65] and in the Freirean sense they have 'banked' their learning (Freire, 2013). Therefore, perhaps education itself needs to be de-schooled (Illich, 1971), so the teaching profession needs to de-educate itself and evaluate the real purpose of education. Given this, hooks' call for teachers to transgress (hooks, 2014) seems more relevant than ever. The increased prevalence of informal, or teacher-initiated PD may be a sign of some teachers transgressing from traditional PD. Perhaps power and hierarchy, and an inherent lack of trust in others, and even ourselves, is one of the major challenges to overcome. Conversely some teachers may, understandably, feel comfortable with this hierarchy as it provides certainty in a sector which appears to be a regular state of flux. At the heart of this issue of trust appears to be someone's personal belief and the fear of being 'found out', and

[65] As I was making post-viva corrections a speaker at the 2019 NEU conference, Nick Jones, was quoted as saying they, and other teachers thought "CPD is bollocks" adding that teachers "know their shit" (Available at: https://twitter.com/MrSmithRE/status/1118572536869064704).

‘imposter syndrome’ (Brems et al., 1994) is something that is regularly discussed in higher education. As a teacher these are all ideas I will embrace and continue to reflect on, encouraging other teachers and students to do the same.

Of course the issue here may not be the teachers themselves; for if we accept the idea of habitus (Bourdieu, 1990) they are simply a product of the environment and culture they work and live in. I now think that the more open people, and more specifically educators, become (Belshaw, 2016) the less susceptible they will be to the cultural pressures. The implications for me as a teacher is that I need to model, and more importantly live, the values of trust, honesty, openness and transparency, all which have emerged from the current study (discussed in Chapter 8). Interestingly these are key standards for teaching in Scotland (GTCS, 2012), but also ones that cause difficulty for teachers and student teachers.

As I entered the final year of this project I was over five years into my career as a teacher educator. My consideration of agency and self-awareness for this project prompted me to examine how I approach my role as a teacher educator. I revisited my approaches to lectures and workshops, looked for opportunities to shadow colleagues, requested additional student feedback and accepted any chance to learn, as the vignette below evidences. I found all of these activities beneficial and have pledged to do more of this in future.



As I reflect on my career to date it seems that it has evolved from teaching children, to teaching adults to be teachers, and finally to teaching students, at Masters-level, to be researchers. The next step for me may be, at post-doctoral level, to supervise and teach doctoral candidates. Through engagement with my own supervisors I have realised this is a highly complex and challenging process and is often fraught with disagreement and misunderstanding, even around the value and nature of PhD study. Recent research into supervisors' perceptions of the purpose of PhD study suggests:

> *…if students (and supervisors) are not explicitly exposed to the existence of variation in views, and given the opportunity to explicitly consider what their own views are, there is the risk of developing a misplaced feeling of not belonging when students' views differ from those of their primary supervisor (Åkerlind and McAlpine, 2017, p.1696).*

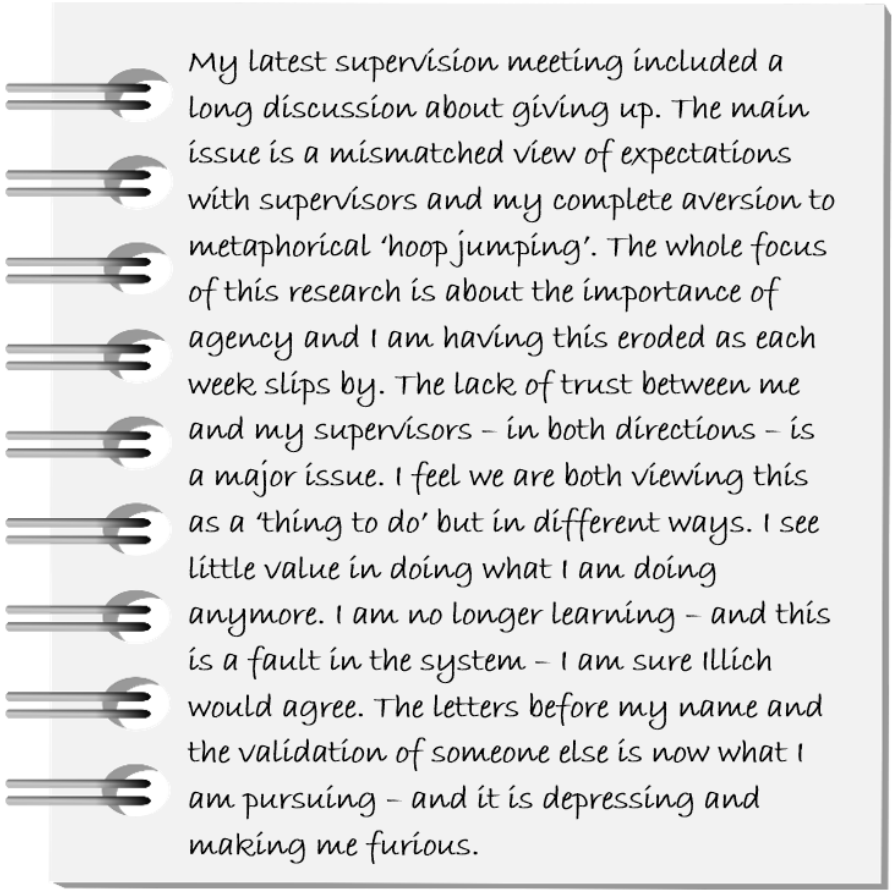
The learning I will take from this, as a teacher at any level, and apply in future is that I must acknowledge difference of viewpoint or opinion so that any student feels a sense of belonging within, and personal ownership of, the wider learning process, and can work toward developing greater agency (Priestley et al., 2015). I will also encourage those I am teaching to learn and develop beyond the traditional educational boundaries whilst also trusting those I am teaching to judge when and how this is appropriate. In particular I will draw on the results of the current study and attempt to foster this by demonstrating vulnerability (Tschannen-Moran, 2014), through authenticity, as a teacher.

Personal development as a learner

During this doctoral research project I made a change in how I viewed my professional standing; for a long time I have described myself as a teacher, even after several years working as a lecturer. Through engaging in research, working with young people, students and colleagues I began to realise that I am actually, first and foremost, a learner.[66] I am now convinced that the more I learn, the better I teach. This section will consider how this research project has allowed me to understand how I have develop as a learner.

[66] I shared this with a professor in my department, who smiled, and told me they regularly said the same.

During the final stages of redrafting this thesis I stopped to ask myself a question: if I was given the option of passing the viva, and being awarded the PhD, but in the process I would forgot everything I had learnt, or not attend the viva but retaining everything I had learnt, which would I pick? I knew immediately that I would want to keep the knowledge I had gained, as the learning experiences I had encountered were so valuable. The certificate and title, even at doctoral level, would come second to this. I reflected this was different to banking (Freire, 2013) facts and, I reasoned, banking understanding was far more valuable than banking the qualification.[67] As I moved into the redrafting phase these issues crystallised and I encountered a particularly challenging period. The reflexive diary extract (in the vignette below) shows my frustrations and anger with the process, also highlighting how loss of trust can be problematic.



Ultimately I managed to work through this challenging period, with the help of my supervisors and wider professional network, as this next vignette (below) from the reflexive diary shows. On reflection, despite this difficult experience which I

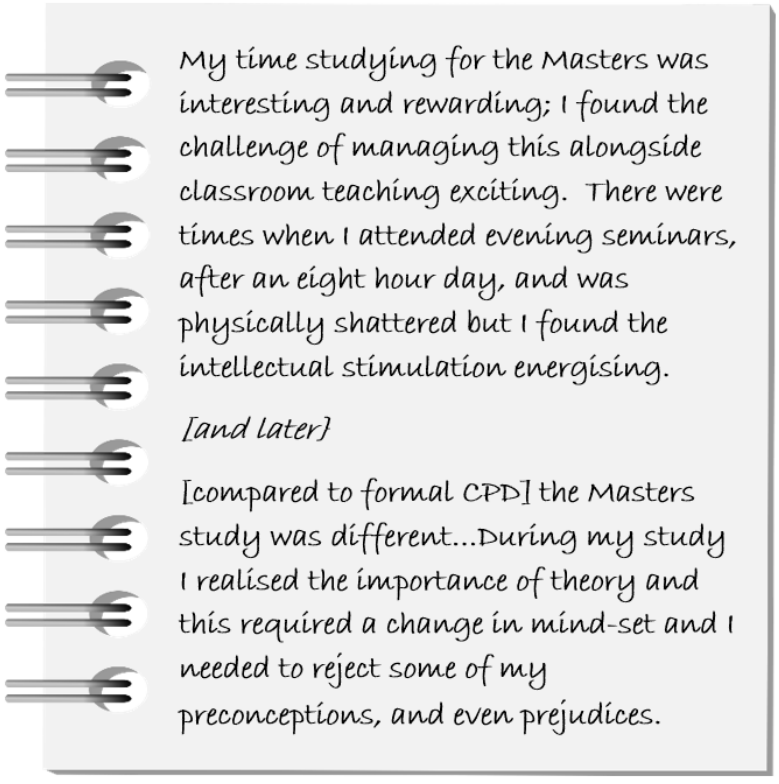
[67] I shared this 'thought experiment' with a colleague. They suggested if this was the case then I shouldn't turn up for the viva at all, which I discussed this with my supervisors… but we all agreed it would be best if I did attend!

think might be fairly common, I also learnt a huge amount from this. Possibly through showing my vulnerability to my supervisors and wider professional network, we developed greater trust in each other, facilitating my own professional development. I also reconciled that my learning, and professional development, was a result of both formal and informal experiences. The systems and structures within education, including the PhD process, are there for good reason, although they may be misinterpreted at times.

Eventually I reconciled that the task, the thing to *do*, had allowed me to recognise my own incidental or unintentional learning (Rogers, 2014). An emergent theme from this study (see Chapter 8) is the idea of tacit knowledge (Eraut, 2000) and implicit learning (Reber, 1993), which is situated in the lowest echelons of the informal learning 'iceberg' (Rogers, 2014). Throughout this project I have developed deeper understanding from drawing connections between ideas; sometimes this occurred implicitly or tacitly. I am unsure whether these connections between ideas count as knowledge, or not. Of course the definition and labelling of knowledge may be of little consequence, if the learning *process,* rather than the *product,* is what matters. The discussion of definition and

problems with strict conceptualisation, covered in Chapter 7, is obviously relevant.

Although implicit learning lacks the directed, instructional qualities of formal, explicit learning, it also takes place in parallel with this form of teaching (Patterson et al., 2010). This could be problematic as this thesis (Chapters 7 and 8) has argued that hierarchical control, within formal PD, may result in disempowerment, and that traditional top-down training or development activity may even inhibit deeper understanding by teachers. If I am considering how teachers can best be facilitated to become independent, self-motivated learners then I must also apply this to myself, as a learner. Therefore, I am now trying to understating better when I may be learning implicitly, and where explicit learning is required. The times where I have successfully reconciled these two forms of learning, and development, have been positive experiences. For me Masters-level study opened the door to this, as the vignette below illustrates, and this trend has continued whilst learning at doctoral level.



Moving on to the activity of how I have developed as a learner, I have found the interactions through TeachMeets or social media, to have been particularly influential. There has been much academic interest in these activities in recent years, and I have learnt a great deal from engaging with the work of academics

and scholars studying these topics (Carpenter, 2016b; Guest, 2018; Jefferis, 2016; Visser et al., 2014). However, the result from my research project suggests professional communications and communities were more notable than these more recent innovations. As a result, instead of thinking too much about the *'how'* of teacher-initiated PD a more enlightening question may relate to *'why'* teachers want to learn. Given this, and the increasing interest in, and relevance of teacher agency (e.g. Priestley et al., 2015), and the cross over to motivation (another key factor identified in the current study), this should be the focus of further research. The significance to me as a learner is that I now consider, more consciously, *why* I am motivated to learn. Evans proposes the motivational components of PD are often overlooked (Evans, 2014) and so I intend to personally examine my motivations in greater depth and also apply this to PD activity I may be facilitating.

One thing I have deliberately resisted doing in this section is providing a list of the knowledge I have learnt, or acquired, during this project. That said, I must acknowledge I have developed a deeper understanding of structures and systems in education, gradually uncovering the plethora of terms and labels used in the general field of PD. One of the key findings of this project (Chapter 6 and Chapter 7) has been that labels may inhibit a shared understanding. This is something I will have to constantly remind myself of as my learning continues. I am now revaluating my view of knowledge, and whilst recognising Michael Young's idea of powerful knowledge (Young, 2007), I am trying to seek a deeper understanding of ideas and concepts. This has led me to question terms and labels, and in doing so I believe I am now learning for *understanding*, not for *knowing*. In fact, borrowing from Illich's ideas of deschooling (1971) I think I am working through a process of de-educating myself.

The final observation, from my engagement with this project, is that being a researcher and being a learner are very closely related. Many of the observations in this final chapter could have fitted under either heading. I have realised that although this project set out to research how *teachers* develop I have become a key subject in this study, and been able to closely examine and research *my own* development as a learner. Whilst I acknowledge the criticisms of this autobiographic approach, in that it is self-indulgent (Collinson and Hockey, 2005), I believe that as I researched I became a better learner. And as I learnt, I became a better researcher. When the boundaries blurred I cared less about which was

which, and more about what I understood. I think the extract from the reflexive diary (in the vignette below) sums up my development in this area:

Next steps

When I began the doctoral study journey I anticipated ending the thesis with a concrete conclusion. These have been presented, and discussed earlier, in Chapters 7, 8, 9, and 10. Instead of looking retrospectively this final section will discuss future opportunities, which nicely mirrors the research into teacher PD suggesting activity should be cyclical, or follow a rhythm (Cordingley et al., 2015). For large parts of this project I avoided thinking about where this research should go next because my priority is to consolidate my learning from this project first, especially given the varied results that emerged from the Delphi study. Following discussion with research professionals, including my supervisors, I have some ideas which I will briefly outline.

The main focus for my future research and scholarship activity will be around the general concept of teacher-initiated PD (or PL) and self-directed learning. Initially I will investigate the importance or relevance of labelling and terms within PD and how this impacts on teachers. Building on the recent review of Teaching Scotland's Future (Black et al., 2016) there is potential for an important piece of empirical research investigating teacher understanding of professional development and learning. The comprehensive study 'Teachers' perceptions of

continuing professional development' published in England in 2003 (Hustler et al., 2003) would make a suitable template for a similar study in Scotland.[68] As discussed in Chapter 7 the term grassroots PD was considered to the end of this research project. This term has been used in relation to both Twitter (Forte et al., 2012) and the recent BrewEd initiative (Egan-Smith and Finch, 2018). The crossover between terms and ideas such as teacher-initiated, DIY, and grassroots PD are complex and require careful, nuanced analysis. Therefore, as I continue to wrestle with the challenges of definition and conceptualisation grassroots may be the term I use, and an area I research in greater depth.

The next area for potential future research focusses on methodology and involves investigating the potential and feasibility of the Delphi method within educational research. As identified earlier this method has only occasionally been utilised in the education sector. Therefore, the ability to explore potential future scenarios, utilising expert opinion, might be of particular interest to those working in educational policy; with the current study acting as pilot for this approach. One area this could be utilised would be to explore the consensus view, amongst teachers, of terms, definition and characteristics of professional development. Finally there are also areas where general teacher perceptions and understanding could be contrasted with that of experts, building on my experience of the topic of neuro-myths in education immediately comes to mind.

Finally, from the perspective of 'grassroots' teacher (Egan-Smith and Finch, 2018; Forte et al., 2012) I would like to investigate the actors engaging in teacher-initiated PD. Throughout this research project I have developed my personal, professional network and encountered some very interesting people from across teaching and the associated educational disciplines. I would really like to investigate their perceptions and experiences of self-initiated professional development and heutagogy or self-directed learning (Brookfield, 1984; Hase and Kenyon, 2013; Rogers, 2014), who may be the 'gourmet omnivores' (Joyce and Showers, 1988). In particular I hope to investigate the themes of ownership, agency and trust amongst this group and contrast this to the wider teacher population. A common, recurring theme has been how I have used narrative to

[68] The large-scale MQuITE research project http://www.scde.ac.uk/projects/measuring-quality-in-initial-teacher-education-mquite/, launched in the summer of 2018, considering teacher education in Scotland, and the Chartered College of Education consultation on CPD https://chartered.college/get-involved-new-cpd-consultation may address some of these issues.

understand issues and I would like to apply this methodological approach to better understand how teachers develop and learn.

This is where the thesis should finish, but doing so would be a rather abrupt ending. Therefore, I have opted to add a section, which will draw a line under this research, whilst acknowledging it is also the start of the next step in my development.

Final word: The last thing I'll be…

In final supervision session, a week before submission, we self-assessed the research project against the main criteria for the professional doctorate. We talked over how the project impacted on the field of education and the contribution toward extending knowledge (both discussed in Chapter 9). The issue of novelty within the research was also considered; we reflected that, although some key points were not particularly new, the originality lay in the way these had been synthesised, and new methods were being explored. Ultimately the project has contributed to development of critical independent thought, for myself and those within my personal and professional learning network. Despite this, the irony of considering the assessment criteria (a product focused approach), was not lost on us. I must now reconcile these potentially dichotomous issues. I aim to continue to de-school (Illich, 1971) and then re-educate *myself*, whilst accepting that systems and structure, and certainly rigour serve various purposes.

This preceding section of this final chapter focused on my development as a researcher, a teacher and a learner - with learner deliberately left to last. When I retrained as a teacher, in my 20s, an old school friend reminded me of how I confidently stated, aged fourteen: 'the *last thing* I want to be, is a teacher'[69] Later, writing for my Masters in Education, I reflected back on that moment; now proudly proclaiming: 'a teacher, is the last thing I'll be'.[70] Now, having worked through the doctoral process and experiences that have led to this point, I need to adjust that statement one more time, realising that: 'I will always be a *learner*.'

This thesis began with the quote from the influential Donaldson report, Teaching Scotland's Future (Donaldson, 2010). Donaldson's recommendations aimed to

[69] This was because my parents, who were both teachers through the 1980s, vigorously discouraged me from following in their footsteps.
[70] Meaning that I had now found my vocation.

develop a teaching culture where there would be a pull for PD, rather than reliance on it being pushed. I now suggest this is supplemented by the acknowledgement that, through factors such as agency, motivation, collaboration, trust, and personal accountability, teachers *are* pushing themselves, and each other, to develop and learn.

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Appendix

Appendix 1 - Recognition of Prior Learning claim evidence

Richard Holme (Staff)

From: [redacted]
Sent:
To:
Cc: Richard Holme (Staff)
Subject: Richard Holme Recognition of Prior Certified Learning

[redacted]

Richard Holme has applied for recognition of prior certified learning.

The current university policy and guidance on recognition of prior learning provides the following guidance on RPCL:

Recognition of Prior Certified Learning
Criteria
3.1. The basic criteria to be satisfied for RPCL are as follows:

- it should be relevant to the award to which it will contribute
- it should be at an appropriate level - mapped to the Scottish Credit and Qualifications Framework (SCQF)
- that its intended learning outcomes (i.e. what the student has achieved) are broadly equivalent to those elements of the Dundee award for which credit is claimed
- that its curricular content and the volume of learning are broadly equivalent to those elements of the Dundee award for which credit is claimed
- that it is recent and thus learning is current. The expectation is that the credit will normally have been acquired within the past five years, although this figure may be adjusted where there is a justified reason for doing so.

Richard has provided a transcript from the University of Sunderland. He was awarded an MA Education in November 2011. This programme included an assessed 30 credit module 'Research Methods in Education' and a 60 credit thesis. These were both assessed at Masters level (equivalent SCQF Level 11).

On the basis of the assessed research components of a Masters qualification acquired 5 years prior to matriculation on the DEd, Richard is given advanced entry to Module 2 of the DEd.

Best wishes

[redacted]

Appendix 2 - Personal reflexive diary (example pages selected at random)

Preparing to upgrade to doctoral student (reflection written September 2015 – December 2015)

As I completed the first draft of the literature review element of my doctoral study I started to have more opportunity to discuss the focus of the research. The selected topic has meant that everyone I work with (and many people I don't!) are able to pass comment. At first this was slightly unnerving, and at other times irritating, but with time I have come to value this input as it deepens my understanding of the topic and how it is perceived by others. In fact on reflection this adds to the rigour of the study and allows me to continually challenge my own interpretation and analysis.

During one such discussion a colleague, at a similar stage in their own research career, posed two important questions to me. Firstly whether the idea of DIY PD actually something at all. This was an important question and something I had planned to investigate through the next stage of the project. However, their own personal view of teacher PD seemed slightly vague, and they found it hard to differentiate between forms or categories of PD. Surely, they argued, Professional Development is just something teachers do. This highlighted to me that understanding of this topic, even amongst educators, is unclear. As our discussion developed my colleague posed a second, even more fundamental question. They asked is PD makes any difference to student attainment, and were issues of motivation not more important. I was particularly pleased with this as this was one of the very first questions I had approached during my review of the literature.

May 2016

As work on the research element of the doctoral project developed I received some really valuable coaching from one of my mentors. I was in the midst of a particularly busy period of work and arrived late for a supervision meeting. I was about to launch straight into my plans and recent work when one of my supervisors stopped me and said we needed to talk about my approach to work and study, and that I needed to calm down. At first I was a little surprised as I thought I was just about managing and I couldn't give up or stop doing anything – it was all important – but I also viewed myself as being well-organised and being able to multi-task effectively and efficiently. But as the following weeks progressed I thought about what I was doing and realised that I needed to plan better and take control. My behaviour was being driven by outputs and activity and I felt a little like a hamster in a wheel. So I took time, got myself organised and began to plan proactively. This had a very positive effect as I suddenly felt far more in control but the fact that I had made an attitudinal shift also felt strangely liberating. Referring back to the Evans componential model (2014) it appeared that I had made a perceptual change, specifically altering my perceptions of myself. In turn this had affected a behavioural change.

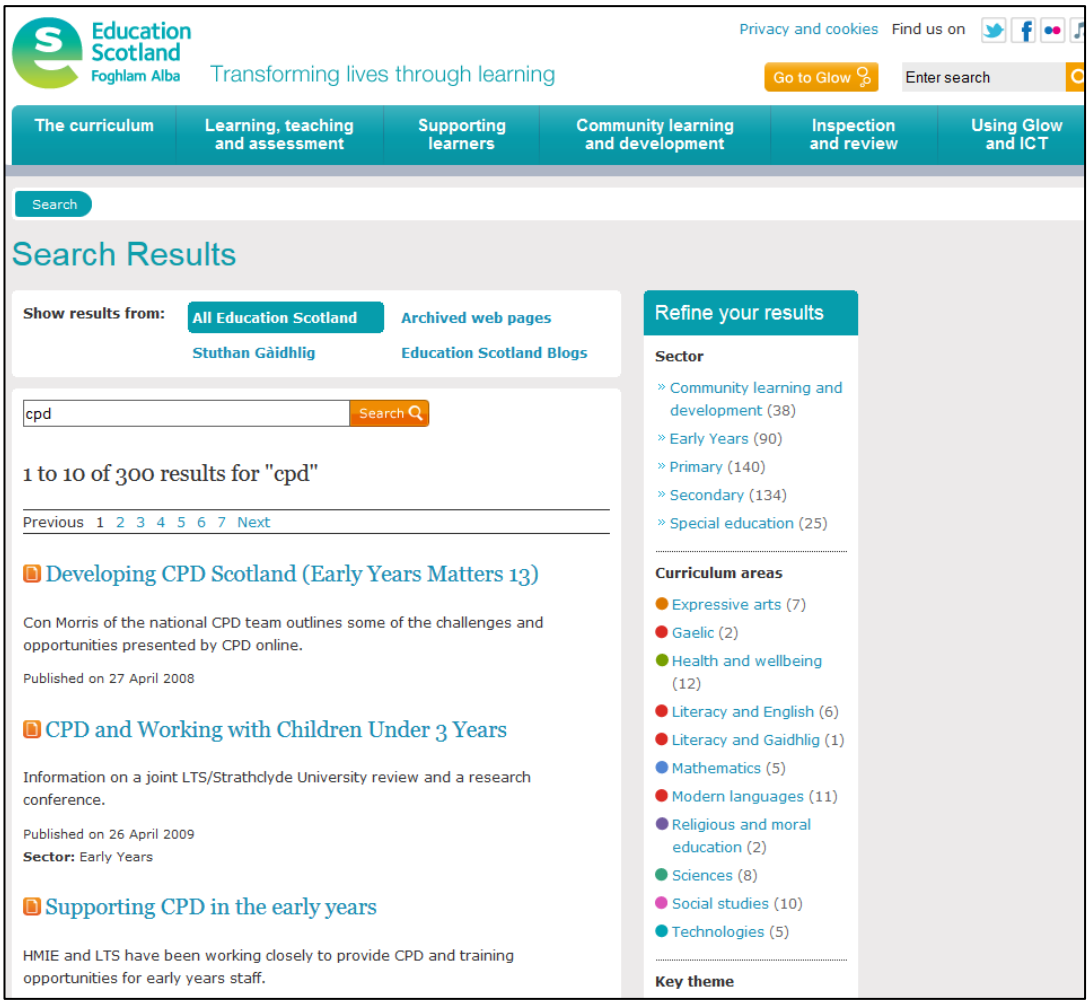
In the months that followed I found myself managing better until a particular 'perfect storm' of personal and professional challenges came together and the result was that I felt as if I was not myself, but could not really explain how or why. I chatted this over with a social work colleague (it is always useful to have them in the same department!) and they described this

November – December 2017

As the final stages of writing up moved in to third and fourth redrafts I was struggling to gain perspective on what I had written. I was getting too close to the research. My supervisors were giving solid guidance as always but during a chat with a UG student, suggesting they went to the Academic Skills Centre (ASC) for help. I suddenly thought I could use this same support. I arranged an appointment and had a very productive session which would help me with my academic writing and the fresh pair of eyes was illuminating. This had the added benefit of me now knowing what receiving academic support feels like. Next time I advise a student to try this I can speak from personal experience. More learning, more development, and all self-initiated.

From a research perspective the redrafting allowed me to revisit the results and concepts. The connections kept coming and whilst reading about agency this led me to trust and the issue of vulnerability and even fear. I have always been aware this is an issue in education but the challenges I had been dealing away from work and study suddenly gave me an entirely different perspective. To take risks in personal situations allows you to feel the highs and lows of life, so some people shy away from this, maintaining a sold, safe middle ground. This is not a problem until people try to control others, to keep themselves feeling safe. Someone who shows vulnerability but is accepting of this and learns from this must be hugely threatening to those who do not.

Appendix 3 - Screenshot of Education Scotland webpage search for keyword 'cpd' (December, 2014).

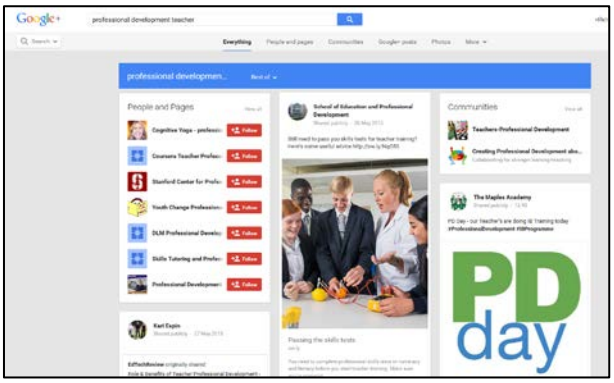


Appendix 4a - Examples of Social media platforms being used for teacher professional development

Pinterest

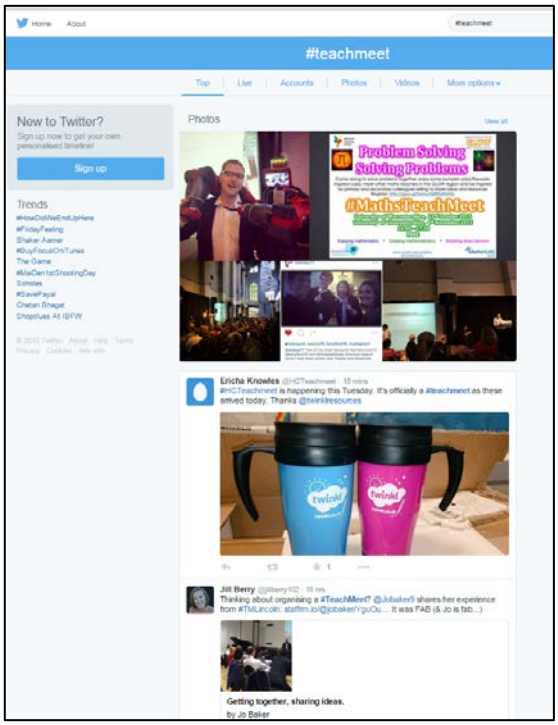
YouTube

Google+



Appendix 4b - Examples of Twitter being used for teacher professional development

#TeachMeet



#EduChat

Appendix 5 – UREC Application form

UNIVERSITY OF DUNDEE RESEARCH ETHICS COMMITTEE APPLICATION FORM

Project title: Scoping the phenomena of DIY Professional Development in education

Lead Investigator	
Name: Richard Holme	
School/Department: Education, Social Work and Community Education	
University mail address: Room O.G.05 Old Medical School, University of Dundee	
E-mail address: r.j.holme@dundee.ac.uk	**Phone:** 01382381473
Staff ☐	
Student ☒ **Supervisor's name** John Baldacchino[71]	

Other academic staff involved		
Name	**School/Department**	**E-mail address**
Elizabeth Lakin	ESW	

Project start date: April 2016	**Project duration:** 9 months
Date application submitted: March 2016	**UREC Ref no. (LEAVE BLANK):**

[71] The supervisor changed during the completion of this project.

YOU MUST ANSWER ALL QUESTIONS		YES	NO	N/A
1	Will you describe the main procedures in advance to participants so that they are informed about what to expect in your study?	☒	☐	☐
2	Will you tell participants that their participation is voluntary?	☒	☐	☐
3	Will your participants be able to read and understand the participant information sheet?	☒	☐	☐
4	Will you obtain written informed consent for participation?	☒	☐	☐
5	If the research is only observational (i.e. no experimental intervention or direct contact), will you ask participants for their consent to being observed?	☒	☐	☐
6	Will you tell participants that they may withdraw from the research at any time without penalty and for any reason?	☒	☐	☐
7	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
8	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
9	Will you give participants a brief explanation of the purpose of the study at the end of their participation in it, and answer any questions?	☒	☐	☐
10	Will your project involve deliberately misleading participants in any way? If YES, you must provide a justification in the research protocol.	☐	☒	☐
11	Is there any realistic risk of any participants experiencing either physical or psychological distress or discomfort? If **YES**, give details in the research protocol and state what you will tell them to do if they should experience any problems (e.g. who they can contact for help).	☐	☒	☐
12	Do the participants fall into any of the following special groups? If the answer is **YES**, indicate which group(s) by checking the appropriate box(es): ☐ Children (under 18 years of age) ☐ Children (under 5 years of age) ☐ People with disability such as learning or communication difficulties. Please specify disability: ☐ Pregnant women ☐ People studied with respect to contraception or conception ☐ People in custody ☐ People engaged in illegal activities (e.g. drug-taking) ☐ Non-human animals ☐ Patients ☐ More than 5000 participants **NOTE:** You may also need to obtain clearance from Disclosure Scotland or an equivalent authority.	☐	☒	☐

You must check **either Box A or Box B** below and provide all relevant information in support of your application. If you answered **NO** to any of questions 1-9, or YES to any of questions 10-12 (with a pink background), then you **must** check Box B.

A: ☒	I consider that this project has **no** significant ethical implications to be brought to the attention of the University Research Ethics Committee.

Please provide a short study protocol in a separate document. The accompanying notes give additional information about how to write the protocol. Your protocol **must** include the following sections, and any others you think are necessary:

1. Project title.
2. Background information.
3. Aims and objectives of the study.
4. Brief description of participants and recruitment methods.
5. Brief description of the research methods and measurements. Include details of how the data will be securely stored.
6. Arrangements for participant information, consent and debriefing.
7. Estimated start date and duration.

You must also provide the intended Participant Information Sheet(s) and Consent Form(s), as well as copies of any questionnaires and details of interview questions you plan to use.

B: ☐	I consider that this project may have ethical implications that should be brought to the attention of the University Research Ethics Committee.

Please provide a short study protocol in a separate document. The accompanying notes give additional information about how to write the protocol. Your protocol **must** include the following sections, and any others you think are necessary:

1. Project title.
2. Background information.
3. Aims and objectives of the study.
4. Brief description of participants and recruitment methods.
5. Brief description of the research methods and measurements. Include details of how the data will be securely stored.
6. A clear statement of the ethical considerations raised by the project and how you intend to deal with them.
7. Arrangements for participant information, consent and debriefing.
8. Estimated start date and duration.

You must also provide the intended Participant Information Sheet(s) and Consent Form(s), as well as copies of any questionnaires and details of interview questions you plan to use.

Declaration

I am familiar with the University of Dundee *Code of Practice for Non-clinical Research Ethics on Human Participants*, which I have discussed with the other researchers involved in the project. I confirm that my research abides by these guidelines.

Signed  Richard Holme Date: Feb 2016
(Lead Investigator)

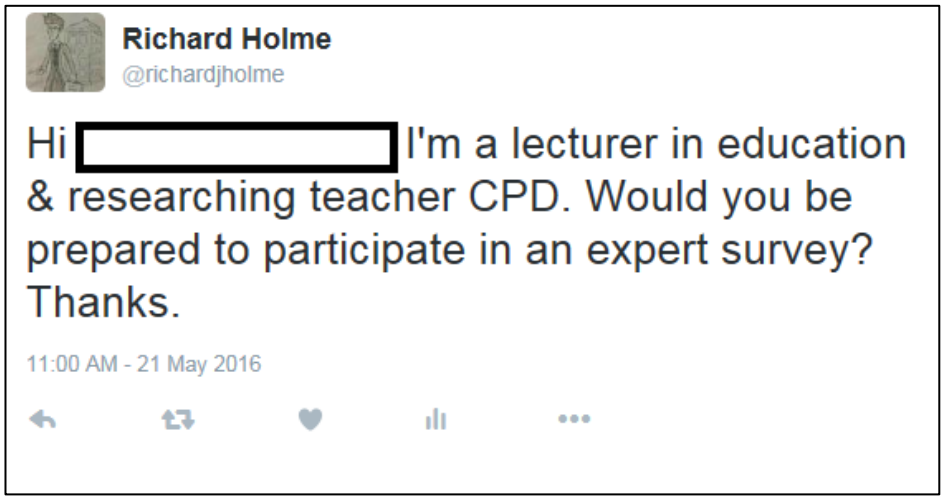
For undergraduate or postgraduate students:

Signed John Baldacchino Date: March 2016
(Supervisor)

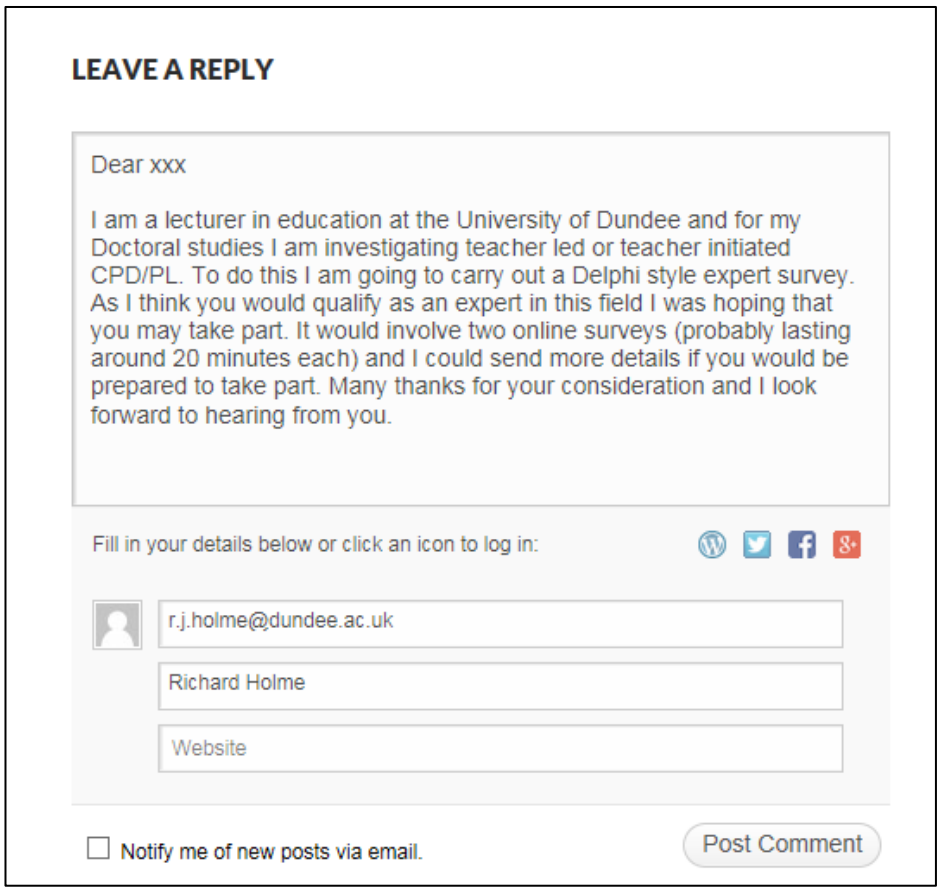
There is an obligation on the Lead Researcher to bring to the attention of the Ethics Committee any issues with ethical implications not covered by the above checklists.

Appendix 6a - Invitation to participate

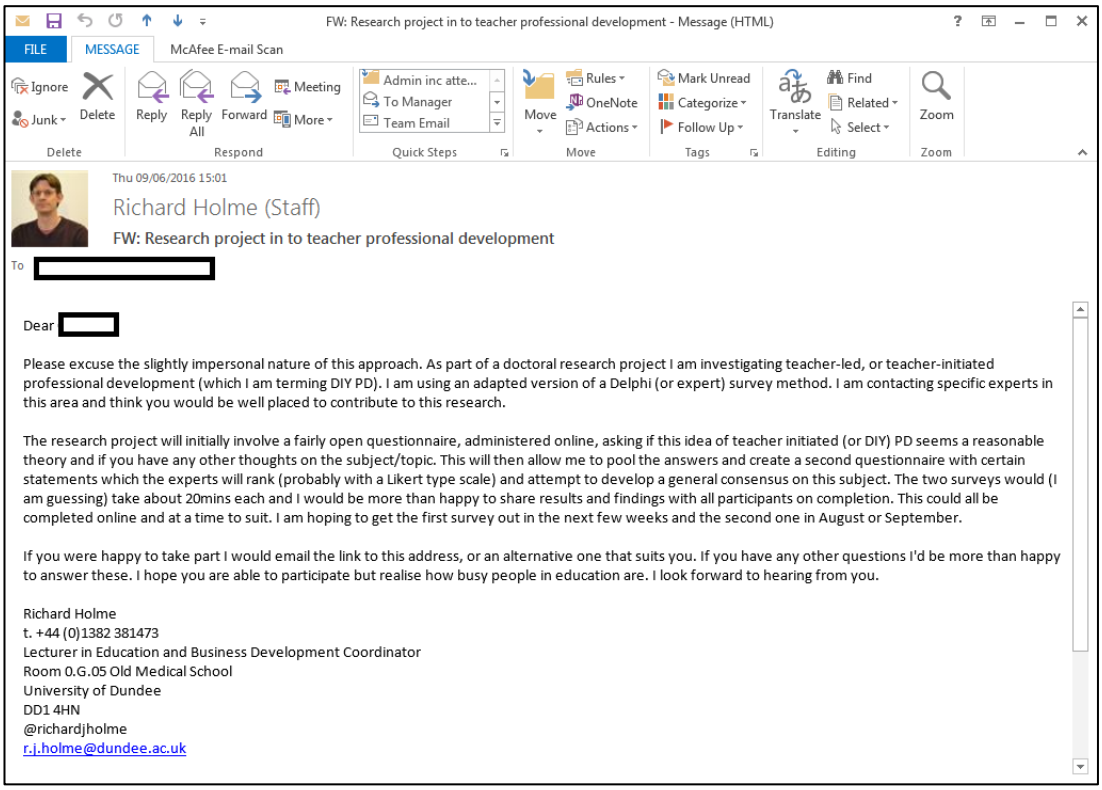
Example 1 – sent via Twitter



Example 2 – using online comment page



Example 3 – invitation email sent to potential participants



FW: Research project in to teacher professional development - Message (HTML)

FILE | MESSAGE | McAfee E-mail Scan

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Respond

Admin inc atte... | To Manager | Team Email | Quick Steps

Move | Rules | OneNote | Actions | Move

Mark Unread | Categorize | Follow Up | Tags

Translate | Find | Related | Select | Editing

Zoom | Zoom

Thu 09/06/2016 15:01

Richard Holme (Staff)

FW: Research project in to teacher professional development

To [redacted]

Dear [redacted]

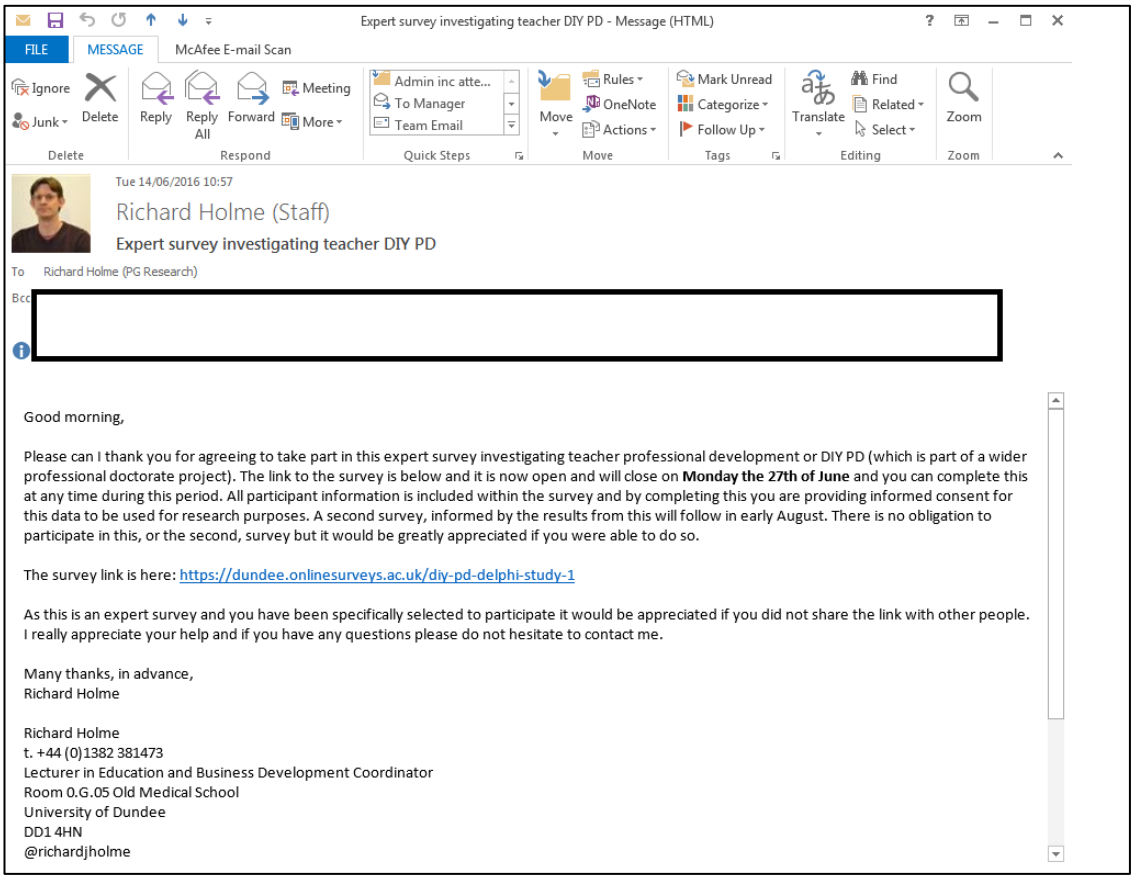
Please excuse the slightly impersonal nature of this approach. As part of a doctoral research project I am investigating teacher-led, or teacher-initiated professional development (which I am terming DIY PD). I am using an adapted version of a Delphi (or expert) survey method. I am contacting specific experts in this area and think you would be well placed to contribute to this research.

The research project will initially involve a fairly open questionnaire, administered online, asking if this idea of teacher initiated (or DIY) PD seems a reasonable theory and if you have any other thoughts on the subject/topic. This will then allow me to pool the answers and create a second questionnaire with certain statements which the experts will rank (probably with a Likert type scale) and attempt to develop a general consensus on this subject. The two surveys would (I am guessing) take about 20mins each and I would be more than happy to share results and findings with all participants on completion. This could all be completed online and at a time to suit. I am hoping to get the first survey out in the next few weeks and the second one in August or September.

If you were happy to take part I would email the link to this address, or an alternative one that suits you. If you have any other questions I'd be more than happy to answer these. I hope you are able to participate but realise how busy people in education are. I look forward to hearing from you.

Richard Holme
t. +44 (0)1382 381473
Lecturer in Education and Business Development Coordinator
Room 0.G.05 Old Medical School
University of Dundee
DD1 4HN
@richardjholme
r.j.holme@dundee.ac.uk

Appendix 6b - Distribution email sent to participants



Expert survey investigating teacher DIY PD - Message (HTML)

FILE | MESSAGE | McAfee E-mail Scan

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Admin inc atte... | To Manager | Team Email | Move | Rules | OneNote | Actions | Mark Unread | Categorize | Follow Up | Translate | Find | Related | Select | Zoom

Delete | Respond | Quick Steps | Move | Tags | Editing | Zoom

Tue 14/06/2016 10:57

Richard Holme (Staff)

Expert survey investigating teacher DIY PD

To Richard Holme (PG Research)

Bcc [redacted]

Good morning,

Please can I thank you for agreeing to take part in this expert survey investigating teacher professional development or DIY PD (which is part of a wider professional doctorate project). The link to the survey is below and it is now open and will close on **Monday the 27th of June** and you can complete this at any time during this period. All participant information is included within the survey and by completing this you are providing informed consent for this data to be used for research purposes. A second survey, informed by the results from this will follow in early August. There is no obligation to participate in this, or the second, survey but it would be greatly appreciated if you were able to do so.

The survey link is here: https://dundee.onlinesurveys.ac.uk/diy-pd-delphi-study-1

As this is an expert survey and you have been specifically selected to participate it would be appreciated if you did not share the link with other people. I really appreciate your help and if you have any questions please do not hesitate to contact me.

Many thanks, in advance,
Richard Holme

Richard Holme
t. +44 (0)1382 381473
Lecturer in Education and Business Development Coordinator
Room 0.G.05 Old Medical School
University of Dundee
DD1 4HN
@richardjholme

Appendix 7 - Delphi round 1 questionnaire

DUNDEE

DIY PD Delphi study 1

0% complete

Page 1: Aims of study

You are being invited to participate in this study as you have been identified as having expertise in professional development (also including professional learning). This expert survey (based on the Delphi method) aims to investigate the phenomenon of Do It Yourself professional development (DIY PD).

The proposed phenomenon of DIY PD is professional development activity which is instigated and led primarily by the beneficiary (i.e. teacher or educator). Suggested examples include autonomous teacher/professional learning communities, teacher-led TeachMeet events and use of social media platforms (eg Twitter #EdChat). There is minimal academic published information in this area and this study will attempt to explore this by consulting with relevant stakeholders.

Once the data has been collected, and collated, from this initial questionnaire the results will be circulated to participants and the second iteration will involve a second questionnaire where an attempt will be made to establish a consensus on the topics investigated. In line with Delphi methodology during this process your identity will not be revealed to other participants.

PARTICIPANT INFORMATION SHEET

PROJECT TITLE:

Scoping the phenomenon of Do It Yourself (DIY) Professional Development in education

INFORMATION ABOUT THE RESEARCH STUDY

This project forms part of a larger Professional Doctoral project focussing on Professional Development in education. This project aims to scope the field of DIY PD (ie Professional Development activity which is informal in nature or led by teachers). Examples of DIY PD may include TeachMeet events, use of social media platforms (eg Twitter #EdChat) or professional/teacher learning communities/networks.

PURPOSE OF THE RESEARCH STUDY

This scoping study aims to validate the existence of the proposed phenomenon of DIY Professional Development. The scoping study will also attempt to identify activity and individuals who are participants or experts in this area to inform future research. The results of this research will be used to produce clearer definition of, and a 'map' of DIY PD (if relevant).

TIME COMMITMENT

The time required to complete the initial questionnaire is anticipated to be no more than 30 minutes, although this may be less. The responses will then analysed informing a second phase questionnaire informed by the results of the first stage. This secondary questionnaire is anticipated to be no more than 30 minutes, although this may be less. The researcher may invite you to participate in a third stage but as this study is following an inductive, iterative process however information on this is not yet available.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is voluntary. If you do not wish to be involved please make the researcher aware of this. If you have provided consent to be named in the publication of this study but later wish to withdraw (before publication) you can request this by contacting: r.j.holme@dundee.ac.uk

As the research process is iterative the data you provide at an early stage may inform later stages of the study. If this is the case, and you decide to withdraw then data you provide which has been used to synthesise common responses may not be removable, however anonymity will be guaranteed.

RISKS

There are no known risks for you in this study.

CONFIDENTIALITY/ANONYMITY

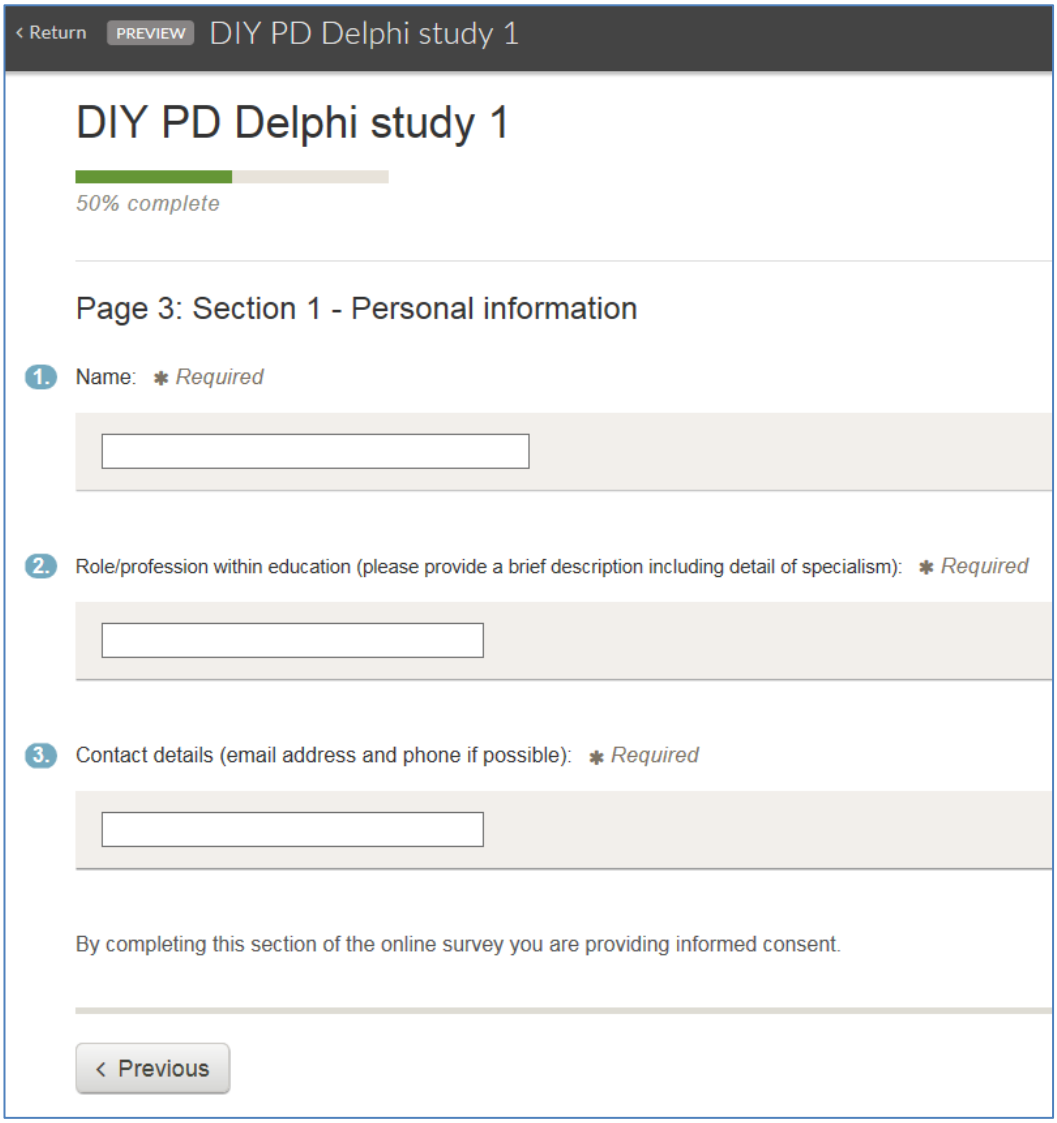
Data collected during this study may be published and in doing so you may be identified as having given a particular response. This is because you have been identified as an expert in the field and this may enhance the discussion of this topic*. If you do not wish to be identified in this way then please include this in the final question asking for additional comments. Any hard copies of data collected will be kept for no more than three years, in a secure location (a locked cabinet in locked office on University premises), before being destroyed. If online or digital collection is utilised this will be done using the University licensed programmes or platforms which ensures data is protected.

FOR FURTHER INFORMATION ABOUT THIS RESEARCH STUDY

The researcher Richard Holme will be glad to answer your questions about this study at any time. If you wish to see the final published results of this study you can also request these from Richard Holme via r.j.holme@dundee.ac.uk or via 01283 381473.

The University Research Ethics Committee of the University of Dundee has reviewed and approved this research study.

* For example this may be presented in published or unpublished work as: *John Smith, a University academic, commented that "teacher CPD is a well-researched area".*


‹ Return
PREVIEW
DIY PD Delphi study 1
DIY PD Delphi study 1
50% complete
Page 3: Section 1 - Personal information
1. Name: * Required
2. Role/profession within education (please provide a brief description including detail of specialism): * Required
3. Contact details (email address and phone if possible): * Required
By completing this section of the online survey you are providing informed consent.
‹ Previous

Page 4: Section 2 - DIY PD as a valid phenomenom

This survey uses scrolling free text boxes; responses will not be restricted to the size of the box.

You may want to repeat certain answers for the following questions. If this is the case please copy and paste from one answer box to another.

4. Based on the general description of DIY PD (see below*) do you recognise or acknowledge this as a concept and think this is a valid theoretical phenomenon within education and therefore be recognised as a discrete form of CPD (please provide justification and details)?: **Required**

* The proposed phenomenon of DIY PD is professional development activity which is instigated and led primarily by the beneficiary (i.e. teacher or educator). Suggested examples include autonomous teacher/professional learning communities, teacher-led TeachMeet events and use of social media platforms (eg Twitter #EdChat).

5. Can you provide suggestions or reasons why DIY PD should **not** be identified as a concept or may not be a valid phenomenon within education and therefore **not** be recognised as a discrete form of CPD (please provide justification and details): *Required*

6. If DIY PD was identified by the expert group (of which you are one) as a valid phenomenon then what would the key characteristics be (this might include issues such as: ownership, autonomy, voluntary/compulsory requirement, formal accreditation, free to access or cost bearing, outside or within work time, enjoyable, challenging or easily accessible, or any other relevant issue)?: *Required*

7. If DIY PD was defined as a phenomenon then what activities, events or form may this take (this could include: TeachMeets, use of social media, Professional Learning Communities, or any other relevant issue)?: *Required*

8. As an expert in the area of teacher professional development can you recommend other relevant theory or research that may apply to the potential phenomenon or DIY PD? (If so please provide details e.g. articles, author, study details, name of theory, link to paper, report or articles etc.):

9. Do you know of other organisations or key stakeholders who may be able to provide additional information on this phenomenon? If so please provide details*:

*This is for snowballing purposes, to ensure key experts have not been missed. These people or organisations will be contacted in the same way you have been approached, and your anonymity as the source will be ensured.

10. As part of the research process any additional comments, which you may believe to be relevant to this subject, would be welcomed so please provide details here:

Appendix 8 - Delphi round 1 - Complete raw data including codes

Appendix 8a - Delphi study round 1 - Q4

Code generation from participant responses

Based on the general description of DIY PD (see below*) do you recognise or acknowledge this as a concept and think this is a valid theoretical phenomenon within education and therefore be recognised as a discrete form of CPD (please provide justification and details)?:

** The proposed phenomenon of DIY PD is professional development activity which is instigated and led primarily by the beneficiary (i.e. teacher or educator). Suggested examples include autonomous teacher/professional learning communities, teacher-led TeachMeet events and use of social media platforms (eg Twitter #EdChat).*

(Participant typing errors retained)

Answer from participant	**Codes**
I'm not sure. The term is new to me and it is still sinking in. My initial response is that I'm not comfortable with it as a term. I think my reason for this is the focus on the individual rather than the collective. I'm also not sure of distinguishing forms of professional learning into discrete categories in this way. Whilst learning is always in the domain of the individual, it almost always occurs in the context of interactions with others. Whether that be through a programme or course, or colleagues in school, or pupils in school, or colleagues online or at TeachMeets. Having said that, informal professional learning would perhaps benefit from having a greater status and so a term to describe these forms of professional learning may help with this. Having said that, I fear that this particular term might have the opposite effect.	Unsure if a concept Unsure if term suitable Community/collaborative nature important Value of clearer definition Value of informal PD should be recognised Term DIY may devalue

Yes, it is valid. Whether or not it is completely discrete is a matter for further discussion. My experience is that teachers in Scotland (at least presently) prefer a mixed-method approach to a completely DIY one. Thus, for example, teachers undertaking an on-line CPD course run by Harvard University on the subject of Teaching for Undderstanding, preferred the back-up of face-to-face, small group, real-life discussion.	A recognised concept/phenomenon Value of clearer definition Mixed methods PD important Personal interaction factors important
Yes I do believe that this is a discrete form of CPD, if by discrete we mean distinguishable from other forms and characterised by particular motivations, practices and potential outcomes.	A recognised concept/phenomenon Motivation/practice/outcome may help define
I wholeheartledy accept this as a phenomenon, but an doubtful as to how far it has been theorised. However I see it as a valid and very worthwhile form of CPD	A recognised concept/phenomenon Value of clearer definition
I think this is a conceptually distinct form of teacher learning, but am not sure about the label 'DIY' - as this seems to have connotations of doing something on the cheap! The term I use with my students is 'teacher-initiated professional learning' (TIPL).	A recognised concept/phenomenon Unsure if term suitable Term DIY may devalue Alternative term may be Teacher Initiated Professional Learning (TIPL)
Absolutely yes to both questions. My family circumstances necessitated my stepping away from the teaching profession 2 years ago, but since then, thanks to DIY PD, I have been able to meet and possibly exceed the standard of CPD I was receiving while teaching. Through Twitter chats, blogging to reflect upon my learning, expanding my RSS feed of websites I follow, and other self-led PD activities, I have more thoroughly	A recognised concept/phenomenon May result in higher quality PD Autonomy important factor

reflected on my past practices, discovered new possibilities, and stayed up-to-date in general where education is concerned.	
DIY PD is a new term to me, although it is well known that teachers have engaged in it over many years, most obviously by embarking on programs of CPD provided by universities and others. On second thoughts, this may not fall within your definition, in which case your definition needs too be sharpened up.	A recognised concept/phenomenon Value of clearer definition
I do. I think there is a growing recognition that teachers need to take control, and be in charge, of their own professional development. This is more recognised as an on-going and career-long professional commitment and process, rather than the attendance at a raft of random PD events and courses. The professional standards of the GTCS and the Professional Update process recognises this as a responsibility for all teachers and promotes them identifying their development needs, and solutions, themselves.	A recognised concept/phenomenon Autonomy important factor Formal events or courses have less value Ownership important factor
Yes, I do, though I'm unclear what you consider to be the difference between a concept and a phenomenon.	A recognised concept/phenomenon Definition of concept or phenomenon needed
I could see value in this concept. It is important to empower teachers and giving them greater independence to organise r customise CPD could be useful.	A recognised concept/phenomenon Ownership important factor Empowerment important factor
I recognise and believe the concept to be valid. It needs to be looked at, interpreted, evaluated and generally made critical sense of. My own writing on how PD has changed sees, particularly in England, a fracturing of education to which a growing response is DIY PD. The concept of social fracture (my	A recognised concept/phenomenon Value of clearer definition Causal issues important (eg social fracturing)

own term is Social Fracking) has a good literature base and I believe that we can see the developing consequences for education and for the PD that accompanies it.	
I recognise DIY PD as a concept and having been involved in it in many ways and on many occasions, I think it is a valid and valuable form of CPD. It draws on proven expertise and tends to focus on pedagogy. It is engaging, varied, inevitably constructive and reflects teachers concerns and priorities. I am not sure what "a valid theoretical phenomenon" is, but it is certainly making a major contribution to staff development and, in my view, is particularly effective	A recognised concept/phenomenon Experts should have involvement Link to pedagogy important Engagement important factor Definition of concept or phenomenon needed
Yes. The PD landscape is changing rapidly with the rise of social media, especially Twitter and do-it-yourself PD, or PPD, as I call it (Personal Professional Development) to distance it from CPD, is possible now. Even 5 years ago, this wasn't easily possible.	A recognised concept/phenomenon Alternative term may be Personal Professional Development (PPD)
Yes	A recognised concept/phenomenon
I see no reason why someone should not posit it as a concept. One could argue about its name as all of the below involve a community and/or others so perhaps the 'yourself' element could be discussed. Similarly, there are *endless* discussions about the meaning of 'PD'. If one considers it a more sustained, longer-term activity then one might want to identify these events as 'PD activities' rather than PD per se.	A recognised concept/phenomenon Community/collaborative nature important Term ‘Yourself’ may be problematic Engagement over time rather than one off activity important factor
I do recognize and acknowledge the term DIY PD as a valid concept. This is an area that I am basing my current research within, although I am using the term 'Career Long Professional Learning' (CLPL). Both DIY PD	A recognised concept/phenomenon Closely aligned to Career-Long Professional Learning (CLPL) Teacher involvement important factor Outcome is a factor

and CLPL appear to be, on the whole, synonymous in that it includes the development and support of autonomous teacher learning communities / communities of practice. Understanding teachers' educational practices and applying this understanding should lie at the heart of all educational research, as "It is teachers who in the end will change the world of the school by understanding it" (Stenhouse, 1981, p.104). Stenhouse (1975) had previously stated that "It is not enough that teachers' work should be studied; they need to study it themselves" (p. 143). Indeed, he argued that the unique nature of each classroom means that the findings of others' research should be applied, verified and adapted by teachers in their own classroom. Teachers should, therefore, play a central, highly important role in implementing interventions and initiatives designed to improve the students' quality of learning. This includes teacher-driven research, through DIY PD / CLPL that has arisen from the teacher systematically questioning their own practice and their students' responses. The usefulness of one-off (often off-site) CPD days has been questioned in terms of the impact upon teachers' processes of learning and development within their school contexts. This is comparative to situated on-going professional development in that opportunities for DIY PD (CLPL) within collaborative communities of practice are more likely to be regarded by the participating teachers as highly relevant and leading to development within their own context. Longitudinal opportunities for	Value of one off events questioned Relevance is a factor Context is a factor Community/collaborative nature important Ownership important factor

experiential, interpretive school-based research enable more time and opportunities for teachers to engage in collaborative professional relationships that centre upon discussion, reflection, evaluation, and the development of context-rich knowledge and understanding. Such an approach and mindset underpins the belief that DIY PD experiences should be designed for and with teachers so that it remains relevant to their own classrooms, values teachers' knowledges and perceptions through exploration, and reflection upon and the evaluation of research and evidence. Through long-term collaborative participation, this should lead to transformative professional practice within classrooms.	
Yes. Because it gives ownership and is much more likely to be sustained.	A recognised concept/phenomenon Ownership important factor

Appendix 8b - Delphi study round 1 - Q4

Search for themes – based on coding

Code	Frequency	Theme	Comments
A recognised concept/phenomenon	15	Recognised as a concept	Directly relevant to question
Unsure if a concept	2	Disputing the DIY PD concept	Directly relevant to question
Unsure if term suitable	1	Issues with DIY PD term/interpretation	Directly relevant to question
Term DIY may devalue	2		
Term 'Yourself' may be problematic	1		
Value of clearer definition	5	Greater definition required	Directly relevant to question
Motivation/practice/outcome may help define	1		
Definition of concept or phenomenon needed	2		
Alternative term may be Teacher Initiated Professional Learning (TIPL)	1	Alternative term proposed	Directly relevant to question
Alternative term may be Personal Professional Development (PPD)	1		
Closely aligned to Career-Long Professional Learning (CLPL)	1		
Causal issues important (eg social fracturing)	1	Causal factors require consideration	Theme not directly relevant to current question (data may be utilised elsewhere)

Community/collaborative nature important	3	DIY PD delivery method factors	Theme not directly relevant to current question (data may be utilised elsewhere)
Personal interaction factors important	1		
Mixed methods PD important	1		
Value of informal PD should be recognised	1		
May result in higher quality PD	1		
Experts should have involvement	1		
Formal events or courses have less value	1		
Context is a factor	1		
Value of one off events questioned	1		
Autonomy important factor	2	Teacher agency factors	Theme not directly relevant to current question (data may be utilised elsewhere)
Ownership important factor	4		
Empowerment important factor	1		
Engagement important factor	1		
Engagement over time rather than one off activity important factor	1		
Teacher involvement important factor	1		
Outcome is a factor	1	DIY PD content factors	Theme not directly relevant to current question (data may be utilised elsewhere)
Relevance is a factor	1		
Link to pedagogy important	1		

Appendix 8c - Delphi study round 1 – Q5

Code generation from participant responses

Can you provide suggestions or reasons why DIY PD should not be identified as a concept or may not be a valid phenomenon within education and therefore not be recognised as a discrete form of CPD (please provide justification and details):

(Participant typing errors retained)

Answer from participant	**Codes**
As above. I'm not sure that its helpful to classify forms of professional learning in this way. In many ways, all professional learning should be initiated and led by the individual.	Classification/definition may limit value of PD All PD should be teacher initiated
I am not saying that it should not have the same validity as other approaches, rather it would sit aalongside other, more conventional forms of CPD, offering a range to teachers/educators which might be appropriate to varying circumstances. For example, Dylan Wiliam's Teacher Learning Communities, is based on group work but might contain some elements of DIY within a school/classroom context.	No issues recognising as a concept May complement other forms of PD (eg TLCs) Forms of PD/PL may overlap
If by discrete we mean separate from other forms of CPD and professional learning I do not believe it can be identified as such. If we accept that argument though we cannot propose any form of learning or development as discrete.	Demarking/defining learning of any sort not possible
The parameters are wide - validity means what? Online engagement is often fluid, transitory, contingent upon identity which is not always declared, so yes, I acknowledge some concerns which have been voiced in the profession about it	Issue with term 'validity' Online engagement 'fluid or transitory' – raises concerns
See above	No issues recognising as a concept

[I think this is a conceptually distinct form of teacher learning, but am not sure about the label 'DIY' - as this seems to have connotations of doing something on the cheap! The term I use with my students is 'teacher-initiated professional learning' (TIPL).]	Classification/definition may limit value of PD Alternative term may be Teacher Initiated Professional Learning (TIPL)
It is certainly a time commitment to ask of individual teachers, and as I'm not teaching right now, I have more time than I would normally have if I were. However, many of the educators I've connected with in my PLN are active teachers and actively pursue DIY PD whenever they can. Many also tend to encourage such teacher-led strategies within their existing in-school CPD sessions. It is my opinion that this time restraint could be viewed as a criticism of DIY PD, but should not be viewed as an invalidation of it.	No issues recognising as a concept Time pressures may inhibit engagement
I can see no valid reason why DIY PD cannot be recognized as a valid form of teacher development and therefore worthy of study.	No issues recognising as a concept
We have de-professionalised the profession for many years, and some teachers now find it difficult to accept their personal professional responsibility to development, and often might not have the skills and knowledge required to take this forward. There is still too much hierarchical practice in education and many schools, and this promotes waiting for someone above you to tell you what you need to do. There is still too much 'top-down' direction from Government, their agencies, local authorities, headteachers and heads of departments, that seek to tell teachers what they should be doing, rather than allowing them to identify what they can do themselves to develop their practice. There are still too many 'control freaks' in education who are wary of letting go of control	Hierarchy in education may be inhibiting/limiting factor

and stifle innovation and the making of mistakes.	
No	No issues recognising as a concept
No	No issues recognising as a concept
Context is important. If, for example, we are looking at Singapore the coherence of the educational system might be reflected in the coherence of PD. If we looked at Modernizing Minds in El Salvador, Education Reform and the Cold War (2012) by Lindo-Fuentes and Ching we would see the absolute opposite of DIY PD. It was, by the way, a disastrous failure. My point is that although PD is a shape shifter the concept of DIY PD is not only valid but that it is crying out to be researched. Both professionals and policy makers need to know about this.	No issues recognising as a concept Context is (eg national culture) important factor
No	No issues recognising as a concept
No	No issues recognising as a concept
No	No issues recognising as a concept
See above. [I see no reason why someone should not posit it as a concept. One could argue about its name as all of the below involve a community and/or others so perhaps the 'yourself' element could be discussed. Similarly, there are *endless* discussions about the meaning of 'PD'. If one considers it a more sustained, longer-term activity then one might want to identify these events as 'PD activities' rather than PD per se.]	No issues recognising as a concept Term ‘Yourself’ may be problematic Engagement over time rather than one off activity important factor
The close similarities between DIY PD and CLPL, as defined by the GTCS in December	Similar to CLPL

2012, need to be carefully examined as a means of determining the difference between the two, if any. That is, what makes DIY PD different from CLPL, Practitioner Action Research and / or Collaborative Action Research.	Similar to action research (PAR/CAR)
The key challenge for me is making sure DIY PD doesn't recycle mediocre or poorly informed practice for which evidence is weak.	No issues recognising as a concept Must not reinforce poor/poorly evidenced practice

Appendix 8d - Delphi study round 1 – Q5

Search for themes – based on coding

Code	Frequency	Theme	Comments
No issues recognising as a concept	12	Recognised as a concept	Relevant to question
All PD should be teacher initiated	1	Disputing the concept	Relevant to question
Classification/definition may limit value of PD	2	Issues with term/interpretation	Relevant to question
Demarking/defining learning of any sort not possible	1		
Term 'Yourself' may be problematic	1		
Must not reinforce poor/poorly evidenced practice	1		
Alternative term may be Teacher Initiated Professional Learning (TIPL)	1	Alternative term proposed	Relevant to question
Similar to CLPL	1	Similar to alternative concept	Relevant to question
Similar to action research (PAR/CAR)	1		
Forms of PD/PL may overlap	1		
May complement other forms of PD (eg TLCs)	1		
Issue with term 'validity'	1	Greater definition required	Relevant to question
Time pressures may inhibit/limit engagement	1	Delivery method factors	Theme not directly relevant to current question
Engagement over time rather than one off activity important factor	1		

Online engagement ‘fluid or transitory’ – raises concerns	1		
Hierarchy in education may be inhibiting/limiting factor	1	Agency factors	Theme not directly relevant to current question
Context is (eg national culture) important factor	1	Content factors	Theme not directly relevant to current question

Appendix 8e - Delphi study round 1 – Q6

Code generation from participant responses

If DIY PD was identified by the expert group (of which you are one) as a valid phenomenon then what would the key characteristics be (this might include issues such as: ownership, autonomy, voluntary/compulsory requirement, formal accreditation, free to access or cost bearing, outside or within work time, enjoyable, challenging or easily accessible, or any other relevant issue)?:

(Participant typing errors retained)

Answer from participant	**Codes**
N/A	Not accepting as a concept
The key characteristic, for me, is ownership. For too long, CPD wwas done to people and originated in some central body which dictated content and methodologies. Most of the literature (e.g. Fullan and Hargreaves) over the last 20 years or so supports the premise that teachers should have ownership of CPD.	Ownership important factor Hierarchy in education may be inhibiting/limiting factor
Interesting question. As a phenomenon I would recognise it as likely to be some or all of the following: Individually motivated Situated outside the formal workplace provision of CPD Tentative - on-going engagement only assured if teacher feels they are gaining some advantage from it (practically, socially, intellectually) Probably taking one of two forms: Either - relatively convergent in learning outcomes - whereby the teacher seeks specific PD to meet a need that they identify in their practice and which they are interested enough in to pursue. In this case once the PD is accessed and the teacher feels they have gained what they sought out this could be an end-point. Or - relatively divergent in that the teacher may	Personal motivation factors Situated away from formal workplace/systems Sustained if a perceived benefit from teacher Ownership important factor Outcome/impact focused Can be inductive/exploratory in nature

begin to reflect upon and seek out alternative perspectives and practices as they become more open to ideas and opportunities to learn from diverse sources.	
voluntary engagement has to be key	Voluntary
I think we have to acknowledge that TIPL (as I prefer to call it, if that's okay) can share many characteristics with other forms of professional learning, but what makes it distinct is that it is teacher-initiated and outwith the formal 'provided' system. In this sense, I mean that it is not led by employers or professional bodies, and is not 'delivered' in a hierarchical way.	Teacher initiated/directed Situated away from formal workplace/systems Hierarchy in education may be inhibiting/limiting factor
Ownership and autonomy (which go hand-in-hand in my view) would be the primary characteristics. I don't believe I would have sustained my DIY PD efforts without the ability to determine my customized direction and degree of learning. Another would be collaborative (such as George Couros' recent suggestion on his website for schools/districts to create networks of collaborative blogs).	Ownership important factor Autonomy important factor Community/collaborative nature important
The only characteristic you have excluded is that the PD should enhance professional performance. This is an odd omission for it isa central function of PD to bring this about.	Outcome/impact focused
This is very much about teacher agency and promoting a disposition towards self-development and improvement. My own preferred approach is through practitioner enquiry approaches by all. I think it is key that teachers are supported to identify aspects of their own practice and understanding that they may wish to improve. I do not believe improvement can be imposed from above in any sort of meaningful or sustainable way. Real power for change occurs when teachers	Teacher agency Practitioner inquiry important Hierarchy in education may be inhibiting/limiting factor Ownership important factor May involve accreditation, not essential Should lead to improved outcome for learners Support (time, resources) may be provided

identify themselves what they may want to do to improve. We have built links with Edinburgh University and this has enabled some teachers to receive accreditation from GTCS for their enquiry work. I think such accreditation is important, but not essential. I also think that although teachers should have responsibility for their own PD there has to be links to school development and improved outcomes for learners. Professional development should include an element that is supported through time and resources as part of the teacher's role, but there may well be a lot that happens in their own time, and which they self-fund. The use of social media, blogging, teachmeets, and the like have made this more accessible and likely. I also think that professional reading, followed by focused conversations and dialogue, need to be encouraged and 'space' provided for in development activities. I also think that activities should promote collaboration and collaborative cultures.	Contribution/commitment from teacher (time, financial) Community/collaborative nature important Based on theory/research 'Space' required
Self-directed; free to access; not directly controlled by employer; voluntary	Teacher initiated/directed Free to access/cost neutral
Ownership and autonomy are important. I would assume most of this CPD would be relatively informal and the issue of accreditation would not arise. However,there could well be exceptions.	Ownership important factor Autonomy important factor May involve accreditation, not essential
I would agree with all of the list above. I would add that DIY PD can be reactive and pro-active. It can be accompanied by anxieties, interests, concerns and values. It can almost be hidden from view at times and unacknowledged by senior managers. Questions include the following. Whose value system or priorities are in play? Does it have	Outcome/impact focused Can be inductive/exploratory in nature Hidden or unacknowledged by managers

a positive feel or a negative? What do the first seven letters of the word 'professional' signify? Is DIY individual or collective? What is the distinction, if any, between teacher and learner?	
Jeez! You are making this complex!! Key characteristics would include "ownership" - the organisational drive has to come from the potential beneficiaries. As such, it has to be "voluntary" although elements of the form, e.g teach meets can be used within formal CPD provision. It needs to be autonomous although it can be supported by sponsorship, in my view, and there can be external support for the organisation of events. "External" speakers can be invited. it does not need to be free to access - Northern Rocks is a great example which is not. It can take various forms and can be focussed on different curricula areas. it can be focussed on pedagogy and involve only the sharing of practice or it can be research focussed. I suppose the only characteristics that it has to have are the ownership element and the possibility of development for those attending in terms of their understanding, knowledge, practice or performance	Ownership important factor Voluntary Can be situated within formal CPD Support (expert, external organisations) may be provided May focus on curricular areas May focus on pedagogy Community/collaborative nature important Practitioner inquiry important Outcome focused
Identification of an issue for further exploration. Research of that issue outside of one's own school. Use of formats outside of school (especially social media) for research. Contact with a wide range of people/experts via social media to provide links for further research.	Can be inductive/exploratory in nature Situated away from own workplace Networking Social media
Choice is key. Part of educational professionals taking control of their own development, showing agency and taking responsibility. Not top-down and driven by	Choice an important factor Teacher agency Flexible

their leaders and managers. Flexible - they can commit as far as they wish. Often cost neutral (though takes time, and time isn't free!) Choice over when they spend time on it, though (eg Twitter). Enjoyable because this is all about human interaction, stimulating dialogue and powerful networking.	Contribution/commitment from teacher (time, financial) Free to access/cost neutral Social media Networking Enjoyable
The major issue here is not that such activities exist, it is more of their value and impact. The Developing Great Teaching review suggests that none of the identified activities that you call 'DIY PD' are, in themselves, likely to be sufficient to generate long term practice changes that have positive impact on pupil outcomes. Broadly speaking, effective PD tends to require quite a tough learning journey and an external facilitator. There is also no particular evidence that teacher-instigated (or teacher-chosen) PD has any more impact than PD where the teachers are initially conscripted. The factor that seems to make a difference is as to whether the participants eventually buy in to the process and relevance.	Outcome/impact focused Rigorous Support (expert, external organisations) may be provided 'Buy in' from beneficiary Relevance
1. The empowerment and enabling of teachers who feel that they have the knowledge, understanding and self-efficacy to undertake informed educational research within their own classrooms and across schools; 2. The enhanced professional insight of teachers, trainee teachers, teacher educators, and local / national government officers regarding the impact of DIY PD (CLPL) (through practitioner action research) and specific teacher behaviours and methods that have an optimum impact upon their students' motivation to engage with learning through the application of current and	Empowerment Outcome/impact focused Personal motivation factors Based on theory/research Practitioner inquiry important Should lead to improved outcome for learners

generated theory; 3. As part of / in addition to the teacher / school-identified priorities for DIY PD / CLPL, the embedding of underlying pre-existing and generated 'living' theoretical frameworks for PAR and CAR. 4. At the University level of ITE / ITT, the development of trainee teachers' experiential confidence and understanding in the application of research methods that, through PAR, have an impact upon their pupils' learning outcomes. 5. Practitioners may draw upon the research-informed lessons learnt from the implementation and sustaining DIY PD / CLPL, within other / similar schools in particular, and using these as the basis for developing research-informed teacher influences that have an impact upon teaching and learning outcomes	
Onwnership, autonomy, voluntary are all important. Needs to be low-cost and affordable. Less convinced about formal accreditation. Experience tells me outside of work time or where a school has created time within school week (ie so no cover is involved, which is expensive and pupils suffer)	Ownership important factor Voluntary Autonomy important factor Low cost/affordable Not sure about accreditation Support (time, resources) may be provided

Appendix 8f - Delphi study round 1 – Q6

Search for themes – based on coding

Code	Frequency	Theme	Comments
Not accepting as a concept	1	Disputing the concept	Theme not directly relevant to current question
Outcome/impact focused	6	Outcome/impact factors	Relevant to question
Should lead to improved outcome for learners	2		
Sustained if a perceived benefit from teacher	1		
May involve accreditation, not essential	2	Accreditation factors	Relevant to question
Not sure about accreditation	1		
Situated away from formal workplace/systems	2	Delivery method factors (location)	Relevant to question
Situated away from own workplace	1		
Can be situated within formal CPD	1		
Social media	2		
Community/collaborative nature important	3	Delivery method factors (interpersonal)	Relevant to question
Networking	2		
Support (time, resources) may be provided	2	Delivery method factors (resource support)	Relevant to question
Support (expert, external organisations) may be provided	2		
‘Space’ required	1		
Free to access/cost neutral	2	Delivery method factors (financial)	Relevant to question
Low cost/affordable	1		
Flexible	1	Delivery method (other)	Relevant to question

Teacher agency	2	Agency factors (intrinsic, positive control)	Relevant to question
Teacher initiated/directed	2		
Ownership important factor	7		
Autonomy important factor	3		
Empowerment	1		
Personal motivation factors	2		
‘Buy in’ from beneficiary	1		
Voluntary	3		
Choice an important factor	1		
Contribution/commitment from teacher (time, financial)	2		
Hierarchy in education may be inhibiting/limiting factor	3	Agency factors (external, negative control)	Relevant to question
Hidden or unacknowledged by managers	1		
Relevance	1	Content factors (teacher focused)	Relevant to question
Enjoyable	1		
Rigorous	1		
Can be inductive/exploratory in nature	3		
May focus on curricular areas	1	Content factors (student/pupil focused)	
May focus on pedagogy	1		
Practitioner inquiry important	3	Content factors (theory, research focused)	Relevant to question
Based on theory/research	2		

Appendix 8g - Delphi study round 1 – Q7

Code generation from participant responses

If DIY PD was defined as a phenomenon then what activities, events or form may this take (this could include: TeachMeets, use of social media, Professional Learning Communities, or any other relevant issue)?:

(Participant typing errors retained)

Answer from participant	**Codes**
N/A	Not accepting as a concept
There is a wide range of approaches, especially if you accept a broad definition of CPD. Everything from MOOCs, online courses (TfU), Teacher Learning Communities, shared professional observations, learning rounds, etc.	MOOCS/Online learning unites (eg TfU) TLC/PLCs Observations Learning rounds
It could include TeachMeets, use of social media, professional learning communities - but would only remain DIY PD for as long as the teachers (individually or collectively) remained in the role of decision-makers with regards to it. Other activities could include coaching (expert or peer), practitioner enquiry and study visits.	TeachMeets Social Media TLC/PLCs Coaching Practitioner enquiry Study visits Teacher agency required
All of the above, in a professional context. I think DIY PD could inclde professional reading groups; meetsups; partnership working with universities (teacher fellow/associate tutor work etc)	TeachMeets Social Media TLC/PLCs Reading groups MeetUps Partnerships (eg with Universities)
I'm finding it quire difficult to answer this in survey mode, as I'd need to seek clarification as to whether your conceptualisation of 'DIY CPD' is indeed the same as my understanding of 'TIPL'. For me, TIPL could include TeachMeets, social media etc., but could also	TeachMeets Social media Events (eg Edcamp, conferences) Clearer definition (of concept) required

include teacher-initiated events such as the Northern Irish #NIEdcamp.	
Social media use (Twitter chats, Facebook groups, etc.) TeachMeets EdCamps Blogging	TeachMeets Social media Events (eg Edcamp, conferences) Blogging
Once it is acknowledged that the key function of PD is to enhance professional performance and to enrich pupils' educational experience, any activity that brings about these ends is worth including.	Any activity that should lead to improved outcome for learners
Professional development should include an element that is supported through time and resources as part of the teacher's role, but there may well be a lot that happens in their own time, and which they self-fund. The use of social media, blogging, teachmeets, and the like have made this more accessible and likely. I also think that professional reading, followed by focused conversations and dialogue, need to be encouraged and 'space' provided for in development activities. Organisations like Pedagoo have done much to promote informal teacher learning opportunities, but I am wary of 'sharing good practice' and 'tips for teachers' approaches. These are good to stimulate thinking but the copying of techniques fails to promote deep understandings or the importance of context. Chats on Twitter can be a valuable and help stimulus for dialogue and professional discussion and I believe there is more mileage here for individual schools and clusters of schools to promote collaboration and to support each other.	May occur in own time Self-funded Social media Blogging TeachMeets Wary of quality (eg 'top tips') of provision Potential for community/collaborative nature important
Structured self-reflection, using a range of reflective resources, including schemata,	Structured reflective activity (eg schemata, criteria, models)

criteria, models, and possibly with other professionals	Potential for community/collaborative nature important
Teachmeets seem an obvious instance. The formation of communities of interest (for example, around subject areas) could be another. Learning communities within schools or a small group of schools would be a possibility but would be more likely to involve school management.	TeachMeets TLC/PLCs
I suggest a potential problem here. A besetting problem with CPD in FE in England came about when it was defined in terms of hours. It became susceptible to value for money analysis and was, therefore, perceived to be a series of timed, tidy and targeted events. All forms of PD need to allow for untimed, untidy and untidy learning. Otherwise, there will be no discovery of professional penicillin. It might be worth having a look at both the medical and legal professions. They have a tendency to see PD in terms of a required number of event hours that must be completed to retain their licence to practise. My own observation of both of those professions indicates that counting the hours is more important that any critical examination of what might have been learned or not. In other words, I suggest confining the definition to events is to risk reducing the potential of professional learning.	Must be untimed or untidy Measuring (by time, cost) may limit Listing events/activities may limit potential
All of the activities listed would be appropriate as would podcasts and even conferences. Northern Rocks is a great example of a major event organised by teachers for teachers. The forms similar to events that would be "officially" organised but its genesis makes it DIY PD for me. The Enquiry Meets in which I have been involved are also DIY PD although	TeachMeets Social Media TLC/PLCs Podcasts Official events (if initiated in a DIY manner)

the format is different. I would also include podcasts, as long as they met the key characteristics	
1. Gather information/ideas, by Get into each others' classrooms to see what is being done in practice. Always see others teach with at least one colleague (the more the better). Listen to people in your school and in other schools talk about their ideas. Join Twitter. Identify issues relevant to *you*. Explore and research further. Take back to your own classroom and school and spread wider through Talk for Teaching and other school sharing mechanisms	Observations Professional conversations Set professional targets Talk for Teaching (share ideas, practice)
Use of social media and the establishment of a professional learning network. Face-to-face events (TeachMeets, conferences etc) allow educators to meet those with whom they have established an on-line relationship.	Social media TLC/PLCs Events (eg Edcamp, conferences) TeachMeets
You can define it as anything you like! To make it more likely to be effective then it needs to be paired with collaborative in-school problem-solving, trust-creating leaders who prioritise PD more generally and a focus on improving and formatively evaluating pupil outcomes - to name but a few of the findings from the review.	Any activity – paired with community/collaborative element Trust of leaders important factor
Ultimately, this depends upon the access that teachers have to current CPD opportunities, e.g. depending upon location, remoteness from CPD providers, the number of teachers within the school (that is, the smaller the school and staff size, the more difficult / expensive it may be for the teacher to attend CPD events and provide staffing cover for their class).	Dependent on practical issues (eg school location, school size)
TeachMeets, social media and PLCs important. But for me, the opportunity for	TeachMeets Social Media

coaching conversations, with a buddy/peer are a key component, both to challenge thinking but also sustain activity and impact.	TLC/PLCs Challenge thinking, sustaining impact important objectives

Appendix 8h - Delphi study round 1 – Q7

Search for themes – based on coding

Code	Frequency	Theme	Comments
Not accepting as a concept	1	Disputing the concept	Theme not directly relevant to current question
Clearer definition (of concept) required	1	Issues with term/interpretation	Theme not directly relevant to current question
Any activity that should lead to improved outcome for learners	1	Outcome/impact factors	Partially relevant to current question
Any activity – paired with community/collaborative element	1		
Challenge thinking, sustaining impact important objectives	1		
Set professional targets	1		
Wary of quality (eg 'top tips') of provision	1	Risk factors	Partially relevant to current question
Measuring (by time, cost) may limit	1		
Must be untimed or untidy	1		
Listing events/activities may limit potential	1		
Teacher agency required	1		
Trust of leaders important factor	1		
Dependent on practical issues (eg school location, school size)	1		
Observations	2		

Learning rounds	1	Personal relationship or peer based PD	Relevant to question
Coaching	1		
Study visits	1		
Partnerships (eg with Universities)	1		
Practitioner enquiry	1		
Talk for Teaching (share ideas, practice)	1		
Professional conversations	1		
Structured reflective activity (eg schemata, criteria, models)	1		
TLC/PLCs	7	Group or event based PD	Relevant to question
TeachMeets	9		
MeetUps	1		
Events (eg Edcamp, conferences)	3		
Reading groups	1		
Official events (if initiated in a DIY manner)	1		
MOOCS/Online learning units (eg TfU)	1	Digital/online facilitated PD	Relevant to question
Social Media	8		
Blogging	2		
Podcasts	1		
Potential for community/collaborative nature important	2	Characteristics	Theme not directly relevant to current question
Self-funded	1		
May occur in own time	1		

Appendix 8i - Delphi study round 1 Q8 (initially designed for snowballing purposes)

As an expert in the area of teacher professional development can you recommend other relevant theory or research that may apply to the potential phenomenon or DIY PD? (If so please provide details e.g. articles, author, study details, name of theory, link to paper, report or articles etc.):

(Participant typing errors retained)

Answer from participant
Struggling off the top of my head...sorry!
As I have mentioned (almost anything) by Fullan and Hargreaves; [redacted] "CPD:Improving Professional Practice" (2005) which contains References and Further Reading; Hoban, G. (2002) "Teacheer Learning for Educational Change "...and many more. I'd be happy to send you a copy of my own book (free of charge, of course).
You will be familiar with Aileen Kennedy's work on CPD. Kennedy, A., 2014. Understanding continuing professional development: the need for theory to impact on policy and practice. Professional development in education, 40 (5), 688–697. You might find it helpful to use Theory of Practice Architecture as a theoretical lens - I often draw on that. It is a social cultural theory which recognised the spaces within practice that are made up by 1) doings - physical characteristics (time, resources etc), 2) sayings - the semantic characteristics (written and oral communication and information and its effectiveness), 3) relatings - the social space created by two or more individuals working in practice together (issues of power, trust, solidarity etc). references I have used in the past include; Kemmis, S. and Heikkinen, H.L.T. (2012), “Chapter 14, future perspectives; peer-group mentoring and international practices for teacher development”, in Heikkinen, H.L.T., Jokinen, H. and Tynjala, P. (Eds), Peer-Group Mentoring for Teacher Development, Routledge, London, pp. 144-170. Kemmis, S., Edwards-Groves, C., Wilkinson, J. and Hardy, I. (2012), “Ecologies of practices”, in Hager, P., Lee, A. and Reich, A. (Eds), Practice, Learning and Change, Springer, Dordrecht, pp. 33-49. Kemmis, S., et al., 2014. Mentoring or new teachers as contested practice: supervision, support and collaborative self-development. Teaching and teacher education, 43,10 154–164.

too many to mention - see my blog for papers
Much of the literature around social media as a room of professional learning is useful, but there's so much of potential use that it's hard to pin it down for you!
no answer
The BERA RSA project on research and teaching would be a useful point of departure, especially the work done by Phillippa Cordingly, if that is how she spells her name. The organization she established to examine the research underpinnings of professional development is important.(EPPIE, if I recall).
I would certainly recommend practitioner enquiry and collaborative enquiry. The work of Marilyn Cochran-Smith is important here, as well as work currently being undertaken by Mark Priestley and Valarie Drew at Stirling University. Any other enquiry type approaches can facilitate DIY PD, like Action Research and Lesson Study. But we have to be wary of such approaches mutating into something they were never meant to be as they get broken down into simple linear steps and approaches. Helen Timperley's work on teacher agency and adaptive expertise is also important.
Reflective practitioner (Schon, Eraut) Action research (Lewin, Elliott, Stenhouse, Kemmis & Carr, Whitehead) Activity theory (Engestrom) Self regulation (Zimmerman) Communities of practice (Lave & Wenger) Relational expertise (Anne Edwards)
I am not aware of any.
I have the impression that researchers in education are often unaware that theories grow in other fields. Systems theory, the notion of the black box and more should also be looked at within political science. The literature can be overwhelming and like all such research there is the risk of going into the theory forest to examine and label every tree. I am sure that others will provide a lot here so I shall try to confine myself to a few. In 1975 Lawrence Stenhouse published An Introduction to Curriculum Research and Development. I am aware that everyone has read the book but it is often forgotten that his notion of teachers as researchers provides a good reference point for DIY PD. In the same year Denis Lawton published Class, Culture and the Curriculum in which he wrote about a proto National Curriculum emerging from the profession. You might think of it as an ultimate form of DIY PD. Since I am delving back in time I also suggest looking at Kemmis S, Cole P, Suggett D, et al (1983) Orientations to Curriculum and Transition: Towards the Socially

Critical School. The best way to obtain a copy of this short book is via ERIC. http://eric.ed.gov/?id=ED295339 Perhaps you might think the book not directly relating to DIY PD but for me it reminds us that PD for educators is connected to society. Almost anything by John Dewy might make a similar point. I said I would limit myself so shall end with [redacted] which you might find something useful. www.criticalprofessionallearning.co.uk
Sorry - I will need to leave the more academic links to others
Talk for Teaching. http://www.quality-schools.com/talk-for-teaching/ Testimonials in book to be published later this year.
Little formal theory I'm aware of - perhaps reflecting that this type of CPD is still at an early stage of development, but there are numerous blogs and articles on the subject. [redacted] for example (2015) Berry, J (2015) Using social networking for professional development, Professional Development Today 17 (2), 60-64. Tim Jefferis has just completed his EdD on the subject (2016) Jefferis, T (2016) Leading the conversation: The use of Twitter by school leaders for professional development, EdD thesis, University of Birmingham
I'd start with two: - Developing Great Teaching, Cordingley et al (http://TDTrust.org/about/dgt) - Teacher Professional Learning and Development, Timperley et al (https://www.educationcounts.govt.nz/publications/series/2515/15341)
no answer
https://www.henley.ac.uk/people/person/dr-christian-j-van-nieuwerburgh/

Appendix 8j - Delphi study round 1 Q9 (initially designed for snowballing purposes)

Do you know of other organisations or key stakeholders who may be able to provide additional information on this phenomenon? If so please provide details*:

(Participant typing errors retained)

Answer from participant
N/A
I should think GTCS, Learning and Teaching Scotland, Scottish College for Educational Leadership, University Faculties of Education, Teacher Professional Associations (especially EIS with their Learning Reps structure...should all be able to help.
IRIS connect - who are extending their commercial brief to a wider CPD one - and who might see themselves as offering opportunities through use of technology for DIY PD
Try #NIEdcamp as noted above.
George Couros, mentioned above, would definitely be considered an expert.

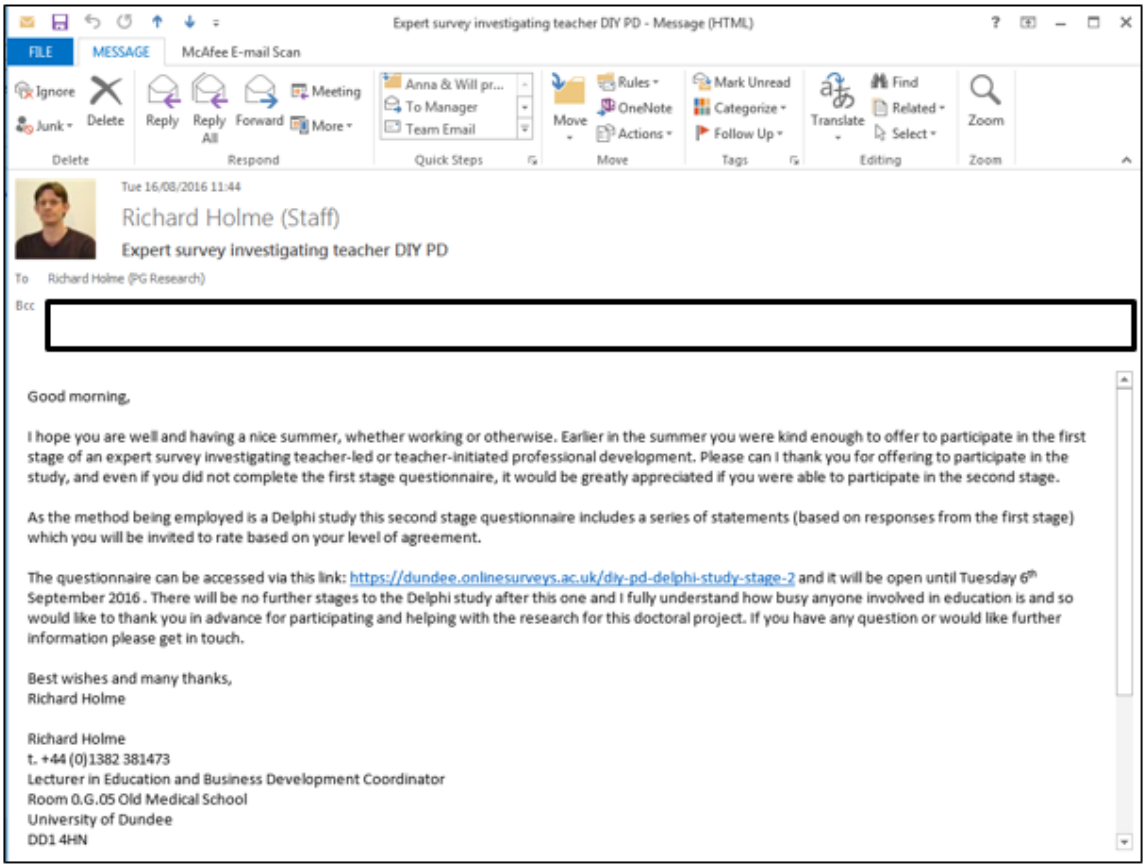
Appendix 8k - Delphi study round 1 Q10 (initially designed for snowballing purposes)

As part of the research process any additional comments, which you may believe to be relevant to this subject, would be welcomed so please provide details here:

(Participant typing errors retained)

Answer from participant
Thanks for taking the time to discuss this on the phone. I do think this is an area of teacher professional learning which would benefit from further study, I'm just not sure about this term and I fear that it's perhaps risks blinkering the discussion slightly.
This is a key issue for Scottish education at the moment. "Closing the Gap" will not happen if there is not a coherent and long-term strategic approach to CPD.
Looking forward to the end result - goods luck!
The papers written about chartered teachers are worth considering. Personally I think the short book on chartered teachers [redacted] is still worth a look.
I think this is a really interesting area of study. I think we are beginning to move in the direction of DIY PD as you describe, but we still have a way to go. The danger is such an approach could easily be derailed by changes to government direction for education which may become much more focused on outputs rather than inputs. I really believe that would be a backward step and ultimately defeat the government's stated aims for education. A 'reform' agenda and business model for schools and education will be disastrous to such an approach, though I have no doubt there will be individuals and schools who would still fight for its adoption.

Appendix 9 - Delphi study round 2 distribution email sent to participants



Expert survey investigating teacher DIY PD - Message (HTML)

FILE | MESSAGE | McAfee E-mail Scan

Ignore | Junk | Delete | Reply | Reply All | Forward | Meeting | More | Delete | Respond | Anna & Will pr... | To Manager | Team Email | Quick Steps | Move | Rules | OneNote | Actions | Move | Mark Unread | Categorize | Follow Up | Tags | Translate | Find | Related | Select | Editing | Zoom | Zoom

Tue 16/08/2016 11:44

Richard Holme (Staff)

Expert survey investigating teacher DIY PD

To Richard Holme (PG Research)

Bcc [redacted]

Good morning,

I hope you are well and having a nice summer, whether working or otherwise. Earlier in the summer you were kind enough to offer to participate in the first stage of an expert survey investigating teacher-led or teacher-initiated professional development. Please can I thank you for offering to participate in the study, and even if you did not complete the first stage questionnaire, it would be greatly appreciated if you were able to participate in the second stage.

As the method being employed is a Delphi study this second stage questionnaire includes a series of statements (based on responses from the first stage) which you will be invited to rate based on your level of agreement.

The questionnaire can be accessed via this link: https://dundee.onlinesurveys.ac.uk/diy-pd-delphi-study-stage-2 and it will be open until Tuesday 6th September 2016 . There will be no further stages to the Delphi study after this one and I fully understand how busy anyone involved in education is and so would like to thank you in advance for participating and helping with the research for this doctoral project. If you have any question or would like further information please get in touch.

Best wishes and many thanks,
Richard Holme

Richard Holme
t. +44 (0)1382 381473
Lecturer in Education and Business Development Coordinator
Room 0.G.05 Old Medical School
University of Dundee
DD1 4HN

Appendix 10 - Delphi study round 2 questionnaire

Please note the full results are available in Table 6, in Chapter 5 – Findings. Also note the question numbers here do not match exactly to those in the results table. This is due to design issue within the survey software.

DIY PD Delphi study stage 2

0% complete

Delphi study stage 2 - DIY PD

Thank you very much for participating in this study. The statements in this questionnaire are based on results from the first stage questionnaire. As a result some statements may seem to be 'leading' but this is because they reflect the responses provided by participants at the earlier stage.

Some of the questions may be challenging to answer as they depend on your personal interpretation of the statement and there is deliberately no 'don't know' option. The questionnaire design also requires an answer before you can progress. Therefore please attempt to answer the question anyway answering in the way that best represents your views or opinion. Some statements have been phrased using negative terminology, so please read carefully before answering.

If you would like to add supplementary information, or to clarify or explain certain responses, then there is an opportunity to do this at the end of the questionnaire.

To help you rate the statements it has been necessary to provide a proposed definition of DIY PD. The results from the first stage of the Delphi study, and literature covering teacher PD have been used to develop this working definition.

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

DIY PD Delphi study stage 2

12% complete

Participant information sheet

PROJECT TITLE:

Scoping the phenomenon of Do-It-Yourself (DIY) Professional Development in education

INFORMATION ABOUT THE RESEARCH STUDY

This project forms part of a larger professional doctoral project focussing on professional development in education. This project aims to scope the field of DIY PD (ie Professional Development activity which is informal in nature or led by teachers). Examples of DIY PD may include TeachMeet events, use of social media platforms (eg Twitter #EdChat) or professional/teacher learning communities/networks.

PURPOSE OF THE RESEARCH STUDY

This scoping study aims to validate the existence of the proposed phenomenon of DIY Professional Development. The scoping study will also attempt to identify activity and individuals who are participants or experts in this area to inform future research. The results of this research will be used to produce clearer definition of, and a 'map' of DIY PD (if relevant).

TIME COMMITMENT

This questionnaire is anticipated to take 30 minutes to complete, although this may be less or more depending on how long you spend deliberating over answers.

PARTICIPATION AND WITHDRAWAL

Your participation in this study is voluntary. If you do not wish to be involved please make the researcher aware of this. If you have provided consent to be named in the publication of this study but later wish to withdraw (before publication) you can request this by contacting: r.j.holme@dundee.ac.uk

As the research process is iterative the data provided at the early stage has informed later stages of the study. If this is the case, and you decide to withdraw then data you provide which has been used to synthesise common responses may not be removable, however anonymity will be guaranteed.

RISKS

There are no known risks for you in this study.

CONFIDENTIALITY/ANONYMITY

Data collected during this study may be published and in doing so you may be identified as having given a particular response. This is because you have been identified as an expert in the field and this may enhance the discussion of this topic. If you do not wish to be identified then please include this on the participant consent form. This will not include any personal information about you. Hard copies of data collected will be kept for no more than three years, in a secure location (a locked cabinet in locked office on University premises), before being destroyed. If online or digital collection is utilised this will be done using the University licensed programmes or platforms which ensures data is protected.

FOR FURTHER INFORMATION ABOUT THIS RESEARCH STUDY

The researcher Richard Holme will be glad to answer your questions about this study at any time. If you wish to see the final published results of this study you can also request these from the researcher, Richard Holme via r.j.holme@dundee.ac.uk or via 01382 381473.

The University Research Ethics Committee of the University of Dundee has reviewed and approved this research study.

By completing this survey you are providing informed consent.

Question 1 - DIY PD as a concept or phenomenon*

(*The term concept or phenomenon is being used here to mean a discrete form or classification of PD and a recognisable idea – and will serve the additional purpose of providing a label.)

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This part of the survey uses a table of questions, view as separate questions instead?

1a: Referring to the definition given above for DIY PD please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
DIY PD should be regarded as a discrete form of PD	○	○	○	○
DIY PD should not be regarded as a discrete form of PD	○	○	○	○
There is value in recognising this definition of PD as discrete from other forms of PD	○	○	○	○
Classification or definition of forms of PD may limit the value of PD	○	○	○	○
Classification or definition of any form of learning is not possible	○	○	○	○

The remainder of the survey will consider characteristics and activities related to DIY PD in greater detail. If you completely reject this as a discrete form of PD you have the option to exit the survey now, or you may decide to answer these questions from a hypothetical viewpoint. * Required

- ○ I recognise or accept the general principle of DIY PD as a discrete area of PD and wish to complete the remainder of the survey
- ○ I am not sure about the general principle of DIY PD as a discrete area of PD but wish to complete the remainder of the survey (this will require you to address the questions from the point of view of generally accepting the general principle of DIY PD)
- ○ I do not recognise or accept the general principle of DIY PD as a discrete area of PD and wish to exit the survey (this, and your earlier responses, will still contribute to the findings and anlysis within this research project)

Question 1 - DIY PD as a concept or phenomenon (continued)

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This part of the survey uses a table of questions, view as separate questions instead?

1b: Referring to the definition of DIY PD above, please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
The term DIY PD fits with the definition	○	○	○	○
A more suitable term would be Teacher Initiated Professional Learning	○	○	○	○
A more suitable term would be Personal Professional Learning	○	○	○	○
A more suitable term would be Career-Long Professional Learning	○	○	○	○
This concept has similarities with action research	○	○	○	○
The DIY term potentially devalues this form of professional development	○	○	○	○
The term 'yourself' could be reconsidered (as this suggests not involving others)	○	○	○	○
If DIY PD is teacher initiated then it may not be based on evidence	○	○	○	○
If DIY PD is teacher initiated there is a risk this may reinforce poor practice	○	○	○	○

Question 2 - Characteristics of DIY PD

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This part of the survey uses a table of questions, view as separate questions instead?

2a: Referring to the definition of DIY PD above, please rate the following statements considering the characteristics of DIY PD:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
DIY PD activity should result in outcome/impact for learner (i.e. pupil/student)	○	○	○	○
The participant or beneficiary perceiving the PD activity as being beneficial could be an outcome	○	○	○	○
DIY PD may involve some formal accreditation	○	○	○	○
DIY PD should be enjoyable for participants	○	○	○	○
DIY PD should be relevant to the participant	○	○	○	○
DIY PD should be rigorous	○	○	○	○
DIY PD needs to be 'untimed' or 'untidy'	○	○	○	○
DIY PD may result in less quality PD (e.g. 'Top tips' sessions)	○	○	○	○
DIY PD should be based on evidence (e.g. research)	○	○	○	○
DIY PD may be inductive or exploratory in nature	○	○	○	○
DIY PD may complement or overlap with other forms of PD	○	○	○	○
DIY PD may focus on pedagogy or curriculum	○	○	○	○

2b: Considering the participant (or beneficiary i.e. teacher) involved in DIY PD please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
The participant must initiate or direct this form of PD	○	○	○	○
Agency (the capacity to act) is an essential element of DIY PD	○	○	○	○
Autonomy (ability to make an informed, un-coerced decision) is an essential element of DIY PD	○	○	○	○
The participant must have ownership over this form of PD	○	○	○	○
The participant must be personally motivated to engage in this form of PD	○	○	○	○
Choice is a key characteristic of DIY PD	○	○	○	○
The participant will make some commitment to this form of PD (e.g. financial or time)	○	○	○	○

This part of the survey uses a table of questions, view as separate questions instead?

2c: Considering the other individuals (or stakeholders) involved within DIY PD please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
The opportunity for networking is an important element of DIY PD	○	○	○	○
The opportunity for community or collaboration is an important element of DIY PD	○	○	○	○
DIY PD can be hidden from, or unacknowledged by, managers	○	○	○	○
The participant should be empowered to engage in this form of PD	○	○	○	○
School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD	○	○	○	○

2d: Considering the location of DIY PD delivery please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
Delivery location and accessibility of DIY PD are important factors	○	○	○	○
DIY PD should be situated away from the formal workplace	○	○	○	○
DIY PD can be situated within a formal PD environment	○	○	○	○
DIY PD can be situated in online or virtual location (e.g. using social media)	○	○	○	○
Positioning of DIY PD online may create transitory or intermittent engagement	○	○	○	○
If DIY PD involved transitory or intermittent engagement this would be a weakness	○	○	○	○
Delivery location of DIY PD should be flexible	○	○	○	○

This part of the survey uses a table of questions, view as separate questions instead?

2e: Considering the support, resources and cost implications of DIY PD please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
Availability of time resource may limit impact of DIY PD	○	○	○	○
Participants must be given 'space' to undertake DIY PD	○	○	○	○
DIY PD does not have to be free for the participant	○	○	○	○
DIY PD may be cost neutral to the participant	○	○	○	○

Question 3 - Possible DIY PD activities

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This part of the survey uses a table of questions, view as separate questions instead?

3a: Referring to the definition of DIY PD above, please rate the following statement:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
Listing events or activities may limit the potential of DIY PD	◯	◯	◯	◯

This part of the survey uses a table of questions, view as separate questions instead?

3b: Referring to the definition of DIY PD above, please rate the following peer or personal relationship based activities that would constitute, or facilitate delivery of, DIY PD:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
Observations	◯	◯	◯	◯
Learning rounds	◯	◯	◯	◯
Coaching	◯	◯	◯	◯
Study visits	◯	◯	◯	◯
University partnership work	◯	◯	◯	◯
Practitioner enquiry	◯	◯	◯	◯
Talk for teaching (and sharing ideas, practice)	◯	◯	◯	◯
Professional conversations	◯	◯	◯	◯
Structured reflective activity	◯	◯	◯	◯

3c: Referring to the definition of DIY PD above, please rate the following larger group or event based activities that would constitute, or facilitate delivery of, DIY PD:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
Teaching Learning Community/Professional Learning Community	○	○	○	○
TeachMeets	○	○	○	○
MeetUps	○	○	○	○
Reading groups	○	○	○	○
Events such as EdCamp or conferences	○	○	○	○
Official organised events (e.g. school based CPD) initiated by teachers	○	○	○	○

This part of the survey uses a table of questions, view as separate questions instead?

3d: Referring to the definition of DIY PD above, please rate the following online or virtual activities that would constitute, or facilitate delivery of, DIY PD:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
MOOCs or online learning units	○	○	○	○
Social media	○	○	○	○
Blogging	○	○	○	○
Podcasts	○	○	○	○

Statements about DIY PD generated from additional themes

Definition of DIY PD

The activities and process by which teacher's professionalism is permanently enhanced, resulting in improved outcome for learners, particularly by critically informed thinking, and through activity which is instigated and owned by the teacher.

This part of the survey uses a table of questions, view as separate questions instead?

4a: Referring to the definition of DIY PD above, please rate the following statements:

	* Required			
	Strongly disagree	Disagree	Agree	Strongly agree
The causal factors for an increased prevalence of DIY PD should be explored	○	○	○	○
Social fracturing within education may be a cause for an increased prevalence of DIY PD so should be explored	○	○	○	○
Context (e.g. national or local regulation) may influence or have an impact on DIY PD	○	○	○	○
A risk of DIY PD is that any positive impact may be reduced by defining, evaluating or measuring it	○	○	○	○

Additional comments

If you would like to make any additional comments about this research topic or add clarification for specific questions please do so here:

< Previous

Finish ✔

This is the end of the survey

Thank you for your time and participation in this study.

If you wish to see the final published results of this study you can also request these from the researcher, Richard Holme via r.j.holme@dundee.ac.uk or via 01382 381473 .

The University Research Ethics Committee of the University of Dundee has reviewed and approved this research study.

Appendix 11 – Delphi study round 2 full data including standard deviation

Question	Summary of mode/ median	Particpant														Arithmetic mean	Stdev	Mode	Median
		A	B	C	D	E	F	G	H	I	J	K	L	M	N				
1.1.a. DIY PD should be regarded as a discrete form of PD	Disagree	2	3	4	2	4	1	2	1	3	2	3	2	3	1	2.36	0.972	2	2
1.2.a. DIY PD should not be regarded as a discrete form of PD	Agree	3	2	1	3	1	4	3	4	2	3	2	3	2	4	2.64	0.972	3	3
1.3.a. There is value in recognising this definition of PD as discrete from other forms of PD	Agree	3	3	3	2	4	2	2	1	4	2	3	2	3	1	2.50	0.906	3	2.5
1.4.a. Classification or definition of forms of PD may limit the value of PD	Agree	3	1	2	3	1	3	2	2	3	4	2	3	1	4	2.43	0.979	3	2.5
1.5.a. Classification or definition of any form of learning is not possible	Disagree	2	1	1	2	2	3	2	2	2	3	1	2	1	2	1.86	0.639	2	2
3.1.a. The term DIY PD fits with the definition	Agree	2	3	4	3	3	NA	3	1	3	3	3	3	3	3	2.85	0.662	3	3
3.2.a. A more suitable term would be Teacher Initiated Professional Learning	Agree	4	3	3	2	2	NA	3	2	3	3	2	3	4	3	2.85	0.662	3	3
3.3.a. A more suitable term would be Personal Professional Learning	Disagree	3	2	2	3	3	NA	2	2	2	3	1	2	3	2	2.31	0.606	2	2
3.4.a. A more suitable term would be Career-Long Professional Learning	Disagree	3	2	2	2	2	NA	2	3	3	3	1	2	2	4	2.38	0.738	2	2
3.5.a. This concept has similarities with action research	Agree	3	2	3	2	3	NA	2	1	3	3	3	3	3	4	2.69	0.722	3	3
3.6.a. The DIY term potentially devalues this form of professional development	Disagree	3	3	2	3	2	NA	2	4	2	1	2	3	2	3	2.46	0.746	2	2
3.7.a. The term 'yourself' could be reconsidered (as this suggests not involving others)	Agree	3	2	2	3	2	NA	3	4	3	4	3	3	2	4	2.92	0.73	3	3
3.8.a. If DIY PD is teacher initiated then it may not be based on evidence	Disagree	3	2	2	3	2	NA	2	1	2	3	1	2	3	4	2.31	0.821	2	2

Question	Summary of mode/ median	Particpant														Arithmetic mean	Stdev	Mode	Median
		A	B	C	D	E	F	G	H	I	J	K	L	M	N				
4.1.a. DIY PD activity should result in outcome/impact for learner (i.e. pupil/student)	Strongly agree/agree	4	3	4	3	2	NA	4	4	3	2	2	3	3	4	3.15	0.769	4	3
4.2.a. The participant or beneficiary perceiving the PD activity as being beneficial could be an outcome	Agree	3	3	3	3	3	NA	3	3	3	3	3	2	3	3	2.92	0.266	3	3
4.3.a. DIY PD may involve some formal accreditation	Agree	2	3	4	3	3	NA	3	4	3	3	3	3	3	1	2.92	0.73	3	3
4.4.a. DIY PD should be enjoyable for participants	Agree	3	3	3	3	4	NA	4	3	3	4	2	3	3	3	3.15	0.533	3	3
4.5.a. DIY PD should be relevant to the participant	Strongly agree	4	4	4	3	3	NA	4	4	4	3	3	3	4	4	3.62	0.487	4	4
4.6.a. DIY PD should be rigorous	Agree	3	3	4	3	2	NA	3	4	2	3	3	3	4	4	3.15	0.662	3	3
4.7.a. DIY PD needs to be 'untimed' or 'untidy'	Agree/Disagree	3	2	2	3	3	NA	2	2	3	3	1	2	1	4	2.38	0.836	3	2
4.8.a. DIY PD may result in less quality PD (e.g. 'Top tips' sessions)	Agree/Disagree	3	3	3	3	1	NA	2	3	2	3	1	2	2	2	2.31	0.722	3	2
4.9.a. DIY PD should be based on evidence (e.g. research)	Agree	4	2	3	3	3	NA	2	3	3	2	2	3	3	4	2.85	0.662	3	3
4.10.a. DIY PD may be inductive or exploratory in nature	Agree	3	3	3	3	4	NA	3	3	3	4	4	3	3	4	3.31	0.462	3	3
4.11.a. DIY PD may complement or overlap with other forms of PD	Agree	3	3	4	3	4	NA	4	3	3	4	4	3	3	4	3.46	0.499	3	3
4.12.a. DIY PD may focus on pedagogy or curriculum	Agree	3	4	4	3	4	NA	3	3	3	3	4	3	4	4	3.46	0.499	3	3
5.1.a. The participant must initiate or direct this form of PD	Agree	4	3	3	3	4	NA	3	3	3	2	3	3	4	3	3.15	0.533	3	3
5.2.a. Agency (the capacity to act) is an essential element of DIY PD	Strongly agree	4	4	4	3	4	NA	3	3	4	3	4	3	4	4	3.62	0.487	4	4
5.3.a. Autonomy (ability to make an informed, un-coerced decision) is an essential element of DIY PD	Strongly agree	4	4	4	2	4	NA	3	3	4	4	3	3	4	4	3.54	0.634	4	4
5.4.a. The participant must have ownership over this form of PD	Strongly agree	4	3	4	3	4	NA	3	3	4	4	3	3	4	4	3.54	0.499	4	4
5.5.a. The participant must be personally motivated to engage in this form of PD	Strongly agree	4	4	4	3	3	NA	4	3	4	4	3	3	4	3	3.54	0.499	4	4
5.6.a. Choice is a key characteristic of DIY PD	Agree	4	3	3	3	4	NA	4	3	4	4	3	3	4	3	3.46	0.499	3	3
5.7.a. The participant will make some commitment to this form of PD (e.g. financial or time)	Agree	4	3	3	3	4	NA	4	3	3	4	3	3	4	4	3.46	0.499	3	3

Question	Summary of mode/ median	Particpant														Arithmetic mean	Stdev	Mode	Median
		A	B	C	D	E	F	G	H	I	J	K	L	M	N				
6.1.a. The opportunity for networking is an important element of DIY PD	Agree	4	4	3	3	4	NA	3	3	4	4	3	3	3	4	3.46	0.499	3	3
6.2.a. The opportunity for community or collaboration is an important element of DIY PD	Strongly agree	4	4	4	4	4	NA	3	3	4	4	3	3	3	4	3.62	0.487	4	4
6.3.a. DIY PD can be hidden from, or unacknowledged by, managers	Agree	3	3	4	3	4	NA	3	1	3	3	4	3	3	1	2.92	0.917	3	3
6.4.a. The participant should be empowered to engage in this form of PD	Agree	4	3	4	3	4	NA	3	3	3	4	3	3	4	4	3.46	0.499	3	3
6.5.a. School leaders must trust participants (i.e. teachers) to take responsibility for DIY PD	Strongly agree	4	3	3	4	4	NA	3	3	4	4	3	3	4	4	3.54	0.499	4	4
7.1.a. Delivery location and accessibility of DIY PD are important factors	Agree	3	3	3	2	3	NA	3	2	3	3	2	3	3	4	2.85	0.533	3	3
7.2.a. DIY PD should be situated away from the formal workplace	Disagree	2	2	2	2	1	NA	2	1	2	2	2	2	2	2	1.85	0.361	2	2
7.3.a. DIY PD can be situated within a formal PD environment	Agree	3	3	3	3	2	NA	3	3	3	3	3	3	2	3	2.85	0.361	3	3
7.4.a. DIY PD can be situated in online or virtual location (e.g. using social media)	Agree	3	3	3	3	4	NA	3	3	4	3	3	3	3	1	3.00	0.679	3	3
7.5.a. Positioning of DIY PD online may create transitory or intermittent engagement	Agree	3	3	3	3	1	NA	2	2	3	3	3	2	3	3	2.62	0.625	3	3
7.6.a. If DIY PD involved transitory or intermittent engagement this would be a weakness	Disagree	3	2	2	2	1	NA	2	2	2	3	3	3	3	4	2.46	0.746	2	2
7.7.a. Delivery location of DIY PD should be flexible	Agree	4	3	3	4	4	NA	3	3	3	3	3	3	3	3	3.23	0.421	3	3
8.1.a. Availability of time resource may limit impact of DIY PD	Agree	4	4	3	4	3	NA	3	3	4	3	3	3	3	4	3.38	0.487	3	3
8.2.a. Participants must be given 'space' to undertake DIY PD	Agree	4	4	3	4	3	NA	3	3	3	3	3	3	3	4	3.31	0.462	3	3
8.3.a. DIY PD does not have to be free for the participant	Agree	3	3	3	3	3	NA	3	3	3	3	3	3	3	2	2.92	0.266	3	3
8.4.a. DIY PD may be cost neutral to the participant	Agree	3	3	3	3	3	NA	3	3	3	4	3	3	3	2	3.00	0.392	3	3
9.1.a. Listing events or activities may limit the potential of DIY PD	Disagree	4	2	2	2	3	NA	2	4	2	4	2	2	2	4	2.69	0.91	2	2

Question	Summary of mode/ median	Particpant														Arithmetic mean	Stdev	Mode	Median
		A	B	C	D	E	F	G	H	I	J	K	L	M	N				
10.1.a. Observations	Agree	3	3	4	3	4	NA	3	3	3	3	4	3	3	4	3.31	0.462	3	3
10.2.a. Learning rounds	Agree	3	4	3	3	4	NA	3	3	3	3	4	3	3	2	3.15	0.533	3	3
10.3.a. Coaching	Agree	3	4	3	3	4	NA	3	3	3	3	4	3	3	4	3.31	0.462	3	3
10.4.a. Study visits	Agree	3	3	3	3	4	NA	3	3	4	3	4	3	3	2	3.15	0.533	3	3
10.5.a. University partnership work	Agree	4	3	3	3	4	NA	3	3	4	4	4	3	3	4	3.46	0.499	3	3
10.6.a. Practitioner enquiry	Agree	4	3	3	3	4	NA	3	3	4	4	4	3	3	4	3.46	0.499	3	3
10.7.a. Talk for teaching (and sharing ideas, practice)	Strongly agree	2	4	4	3	4	NA	3	3	4	4	4	3	3	4	3.46	0.634	4	4
10.8.a. Professional conversations	Strongly agree	4	4	4	3	4	NA	4	3	4	4	4	3	3	4	3.69	0.462	4	4
10.9.a. Structured reflective activity	Strongly agree/agree	4	4	3	3	2	NA	4	3	4	4	4	3	3	3	3.38	0.625	4	3
11.1.a. Teaching Learning Community/Professional Learning Community	Strongly agree	4	4	3	3	4	NA	4	3	4	3	4	3	3	4	3.54	0.499	4	4
11.2.a. TeachMeets	Agree	4	3	4	3	4	NA	4	3	3	3	4	3	3	2	3.31	0.606	3	3
11.3.a. MeetUps	Agree	4	3	4	3	4	NA	4	3	3	3	4	3	3	2	3.31	0.606	3	3
11.4.a. Reading groups	Agree	4	3	3	3	4	NA	4	3	3	3	4	3	3	2	3.23	0.576	3	3
11.5.a. Events such as EdCamp or conferences	Agree	3	3	3	3	3	NA	4	3	4	3	4	3	3	2	3.15	0.533	3	3
11.6.a. Official organised events (e.g. school based CPD) initiated by teachers	Agree	4	3	3	3	3	NA	4	3	3	3	4	3	4	3	3.31	0.462	3	3
12.1.a. MOOCs or online learning units	Agree	3	3	3	3	3	NA	3	3	3	3	3	3	3	3	3.00	0	3	3
12.2.a. Social media	Agree	4	3	4	3	4	NA	4	3	4	3	3	3	3	2	3.31	0.606	3	3
12.3.a. Blogging	Agree	4	4	3	3	4	NA	4	3	4	3	3	3	3	2	3.31	0.606	3	3
12.4.a. Podcasts	Agree	3	3	3	3	3	NA	3	3	3	3	3	3	3	3	3.00	0	3	3
13.1.a. The causal factors for an increased prevalence of DIY PD	Agree	3	3	3	3	4	NA	3	3	3	3	3	3	3	4	3.15	0.361	3	3
13.2.a. Social fracturing within education may be a cause for an increased prevalence of DIY PD so should be explored	Strongly agree/agree	4	3	4	2	4	NA	2	2	3	4	3	3	3	4	3.15	0.769	4	3
13.3.a. Context (e.g. national or local regulation) may influence or have an impact on DIY PD	Agree	3	3	4	3	4	NA	3	3	3	4	3	3	3	4	3.31	0.462	3	3
13.4.a. A risk of DIY PD is that any positive impact may be reduced by defining, evaluating or measuring it	Disagree	2	2	3	2	1	NA	2	2	3	4	2	2	1	3	2.23	0.799	2	2

Appendix 12 - Delphi study round 2 questionnaire final question additional comment data

(Participant typing errors retained)

14. If you would like to make any additional comments about this research topic or add clarification for specific questions please do so here:
General comment (neither positive nor negative)
Thanks for asking me to be involved in the survey, and very best wishes with your ongoing research, Richard.
Positive comment about concept or phenomenon
Although the term DIY PD seems a bit colloquial I actually like it - as the metaphor works quite well. DIY is about using one's own skills and interests to construct things that are deemed necessary or valuable. It can be done as a hobby or as an essential activity depending on circumstance, and one can work on the skills necessary to be more proficient over time. It also works well in describing some of the potential problems - not everyone has the confidence to get started, it can become a singular pursuit rather than a collective one, some people obsess over the gadgets for DIY rather than their effective use. Not everyone likes avocado bathrooms and archways! There may also be interesting parallels with DIY as a business - does it far better in times of austerity or affluence? Can some people effectively opt out because they can afford to purchase skilled labourers?
Developmental comment about concept or phenomenon
I have in mind the notion of 'professional penicillin'. Are professional educators permitted to discover this? With whom and under what circumstances might they share and examine unexpected evidence in order to consider if it might signify a valuable unintended outcome? I also bear in mind that no matter how useful classifications and categories might be for professional learning the walls between them are porous. And I am very much aware of social/political context. The language/narrative/discourse of professional learning tends to be dominated by demands from government that change and nearly always bring pressure. My term for the effects of policy makers is 'social fracking' and for me this is a negative factor in bringing about DIY professional learning (there are positive factors). On the one hand we

have a reduction in resources and on the other hand we are urged to become very instrumental and to 'close the gap'. We may be witnessing proactive professional autonomy that can gain from co-operation and collaboration or we may be witnessing a somewhat selfish free-for-all. In responding to the questions above I sometimes found myself wanting to say, 'It all depends what you mean by outcomes/improvement/etc.' But I guess you know that! Finally, thanks for all this. It has made me think and the research cries out to be done!
Potential issues with research design
An option not to respond should be included. Many of the questions present concepts where a clear and shred understanding is required - e.g. how are you postioning agency, autonomy and the difference between the two in this study? Until I know this I would prefer not to respond. What do you mean by social fracturing? or Impact?
Potential issue with terminology
Hi Richard, The survey contains an assumption that the respondent agrees with the name 'DIY PD'. I don't. I'd rather see it called PPD - Personal Professional Development. Further than that, I'm glad to have been asked to participate in the survey. There is such a dearth of research around the ways that adults generally and teachers specifically, learn. There's so much stuff on children and students. Really glad to see the term "Talk for Teaching' in there! Book out, hopefully before Christmas! Best wishes, [name redacted]
Potential issues with concept or phenomenon
My main concern is with the concept of 'DIY'. An individual should have ownership and be actively involved in constructing sense, meaning and value form PD they initiate/engage in. To use term 'DIY' suggest that there is professional leaning that an individual can 'have/do' that does not require any active involvement - it is done to them and somehow regardless of their 'presence' (intellectually/physically etc) they will 'learn'. Almost any 'activity' can be valuable professional learning if it is relevant to the individual, their professional context, they can engage and ask critical questions of themselves and their practice, learn with and from others, challenges/extends them cognitively in some meaningful way. It does not mean refusing or never doing the formal structured things that are organised at school level an only choosing the nice activities you fancy doing but about you an individual makes sense of and brings critical meaning to professional learning. In self

directed learning the individual is responsible for connecting it to their own learning and development needs. You also use the term 'delivery' this sits at odds with the personalised and somewhat individualised nature of DIY PD you describe. professional leaning opportunity sod not need to be 'delivered'. I do completely agree that we should be focusing on professional learning and development that is critically informed and ultimately will impact positively on the learner/young person - although that impact may not be immediate (in that next week we introduce x and y new strategy because we were on a course about it last week and 'it works') and impacting on knowledge and understanding of the individual first is perhaps a key step in the change process to then impact on actual outcomes for learners.